



Value-Added Tax Design and Performance in Nepal: Empirical Evidence on Growth Impact and Policy Prescriptions for Reform

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Abstract

The study examines Value Added Tax (VAT) performance in Nepal and its impacts on economic growth using a mixed-method approach. An Auto-Regressive Distributed Lag (ARDL) model using annual time-series data (1998–2024) is employed to evaluate the VAT-growth relationship. The model uses the VAT rate, VAT share of total tax revenue, and C-efficiency ratio as key metrics of VAT design, structure, and performance. Additionally, a qualitative policy review explores VAT design, reform, and implementation challenges by incorporating insights from tax experts, academics, policymakers, and stakeholders. Findings reveal that C-efficiency ratio peaked at 61.40% in FY2018/19 and averaged 40.49% over the study period, suggesting moderate VAT performance. Furthermore, empirical results show that a 1% rise in C-efficiency and VAT revenue share increases Gross Domestic Product (GDP) per capita by 0.11% and 0.37% in the long run respectively. Conversely, a 1% rise in VAT rate decreases GDP per capita by 0.12% in the long run. These results validate that enhancing C-efficiency is more favorable to growth than raising the standard rate. Policy evaluation recommends cautiously applying a limited multi-rate VAT—reduced rates on essential goods and relatively higher rates on luxury and negative-externality goods—to lessen the tax burden on low-income groups. However, this requires prior reforms such as administrative modernization, institutional reform, development of a decentralized tax system, a digitalized system, mandatory e-invoicing, base broadening through reduced exemptions, and stronger compliance. This collective reform can increase revenue, support sustained economic growth, ensure social equity, and improve economic welfare in developing economies like Nepal.

Keywords: Value Added Tax, VAT Rate, C-efficiency Ratio, Tax Policy Evaluation, Economic Growth, ARDL Model, Public Policy

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नेपालमा मूल्य-अभिवृद्धि करको संरचना र कार्यसम्पादन: आर्थिक वृद्धिमा प्रभावसम्बन्धी अनुभवजन्य प्रमाण र सुधारका लागि नीतिगत सिफारिसहरू

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सार

यस अध्ययनले नेपालमा मूल्य अभिवृद्धि कर (मू.अ.क.) कार्यक्षमता र मिश्रित विधि प्रयोग गर्दै यसको आर्थिक वृद्धिमा प्रभावको परीक्षण गर्दछ। मूल्य अभिवृद्धि कर र आर्थिक वृद्धिको सम्बन्ध मुल्याङ्कन गर्न अटो-रेग्रेसीभ डिस्ट्रीब्युटेड ल्याग (ARDL) मोडल र वार्षिक समय-शृङ्खला डेटा (१९९८-२०२४) प्रयोग गरेको छ। यस मोडलले मू.अ.क. दर, कुल कर राजस्वमा मू.अ.क. राजस्वको हिस्सा, र सङ्कलन-कार्यक्षमता अनुपात (C-efficiency ratio) लाई क्रमशः मू.अ.क. को ढाँचा, संरचना, र कार्यक्षमताको मुख्य सूचकका रूपमा समावेश गर्दछ। यसको साथै यसले, कर विशेषज्ञ, विद्वत् समाज, नीति निर्माताहरू, तथा सरोकारवालाहरूका दृष्टिकोणहरूको आधारमा गुणात्मक नीति समीक्षा मू.अ.क. को डिजाइन, संरचना, कार्यान्वयन चुनौतीहरू, नीतिगत सुधारको पनि विश्लेषण गर्दछ। वर्णनात्मक नतिजाहरूले के देखाउँछन् भने सङ्कलन-कार्यक्षमता अनुपात वित्तीय वर्ष २०१८/१९ मा ६१.४% सम्म पुगेको थियो र अध्ययन अवधि औसत ४०.४९% रहेको छ, जसले मध्यम कार्यदक्षता पुष्टि गर्दछ। प्रयोगात्मक खोजको नतिजाहरूले के देखाउँछन् भने सङ्कलन-कार्यक्षमता १% बढ्दा दीर्घकालीन कुल ग्राहस्थ उत्पादन प्रति व्यक्ति आय ०.११% ले बढाउँछ र मू.अ.क. राजस्वको हिस्सा १% वृद्धिले ०.३७% ले बढाउँछ। यसको विपरीत, मू.अ.क. को दर १% बढ्दा दीर्घकालीन कुल ग्राहस्थ उत्पादन प्रति व्यक्ति आय ०.१२% ले घटाउँछ। यी नतिजाहरूले के निष्कर्ष निकाल्छन् भने प्रशासनिक रूपमा दक्ष मूल्य अभिवृद्धि कर प्रणाली मार्फत सङ्कलन-कार्यक्षमता सुधार गर्नु मानक दर बढाउन भन्दा आर्थिक वृद्धिका लागि बढी अनुकूल छ। नीतिहरूको मूल्याङ्कनले के सिफारिस गर्दछ भने आवश्यक वस्तुमा कम दर र विलासिता तथा नकारात्मक बाह्यताका वस्तुमा सापेक्ष रूपमा उच्च दर लागू गरी न्यून-आय वर्ग माथिको करभार कम गर्नको लागि सीमित बहु-दर मूल्य अभिवृद्धि कर सावधानीपूर्वक लागू गर्न सकिन्छ। तर यसभन्दा अघि प्रशासनिक आधुनिकीकरण, संस्थागत सुधार, विकेन्द्रित कर प्रणालीको विकास, डिजिटलीकरण, अनिवार्य विद्युतीय चलानी, छुट घटाएर गरिने कराधार विस्तार र कडा अनुपालन प्रवर्तन जस्ता सुधारहरू आवश्यक हुन्छन्। यी सबै उपायहरूले नेपालजस्तो विकासशील अर्थतन्त्रहरूमा संयुक्त रूपमा राजस्व वृद्धि गर्न, दिगो आर्थिक वृद्धि प्रवर्द्धन गर्न, सामाजिक समानता सुनिश्चित गर्न र आर्थिक कल्याण सुदृढ बनाउन सक्छन्।

Keywords: Value Added Tax, VAT Rate, C-efficiency Ratio, Tax Policy Evaluation, Economic Growth, ARDL Model, Public Policy

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1. Introduction

Economic growth remains a central concern for governments worldwide, particularly in developing countries like Nepal where persistent fiscal and structural constraints hinder sustainable growth (Paudel & Raut, 2022). The Nepalese economy, heavily reliant on agriculture and remittances, recorded a GDP growth of 3.87% in FY 2023/24, with a per capita GDP of USD 1,434 and inflation at 5.44% (Ministry of Finance [MoF], 2024). However, growth is constrained by low productivity, a stagnant industrial sector, and slow job creation, which has led to increased outward labor migration.

Nepal's fiscal instability further intensifies these challenges. The budget deficit and public debt reached 6.65% and 42.58% of GDP in FY 2023/24 and revenue generation did not meet the annual target by 25.56% (Nepal Ratra Bank [NRB], 2025; MoF, 2024). Although, VAT and total tax revenue had slightly increased in FY 2023/24 than previous year, the overall revenue collection over the period performs an unstable trend.

Besides, Nepal is still grappling with persistent fiscal challenges, particularly the high budget deficit and piling public debt (Upadhyaya & Pun, 2022). To minimize these fiscal challenges, strong and efficient tax system is required to generate stable revenue. Incidentally, VAT has emerged as an important fiscal instrument for Nepal's tax system.

The empirical literature highlights the dual role of well-designed and efficiently administered VAT, by generating stable revenue and supporting long-term growth. The impact of VAT on economic growth has been studied widely, mainly focusing on C-efficiency which measures the deviation from an ideal VAT system resulting from exemptions, reduced rates, or compliance gaps (Ebrill et al., 2001).

Studies show that improving C-efficiency appears more growth-enhancing than simply increasing the standard rate (Acosta-Ormaechea & Morozumi, 2019; Keen, 2013; Aizenman & Jinjarak, 2008). Evidence also suggests that consumption-based taxation is broad and efficient with less distortive and more conducive to growth than income taxation (Arnold et al., 2011; Gemmell et al., 2014). However, VAT design and implementation can have potential risk in generating revenue efficiently. Exemptions distort input choices and act as implicit production taxes, impeding capital accumulation and long-term growth (Crawford et al., 2010; Cnossen, 1998).

Higher VAT rates can reduce overall consumption and capital accumulation under specific economic conditions Alm & El-Ganainy (2012) and Kolahi and Noor

(2016), while political instability and corruption can weaken compliance and reduce C-efficiency (Tanzi & Davoodi, 2000). The changes in C-efficiency often relate to business cycles and consumer spending habits in the short-term (Sancak et al., 2010; Ueda, 2017). These findings imply that VAT's growth effects are highly context-dependent.

Empirical studies in the context of Nepal have primarily examined trends, structure, and contribution of VAT revenue. But a study by Acharya (2016) examined C-efficiency and concluded C-efficiency can increase revenue collection. However, a comprehensive study on the broader economic impact of VAT, incorporating empirical investigation and policy evaluation, remains limited. Given persistent fiscal pressure, the evaluation of VAT-growth relation and policy analysis are necessary and timely, since VAT affects consumption, savings, capital accumulation, and growth.

Does the growth effect of tax system depend on either raising revenue via higher rates or through base broadening and efficiency improvement? This question is largely overlooked in Nepal and is significant for effective policymaking. Accordingly, a clear understanding of the relationship between collection efficiency, tax policy design, and economic growth is vital to investigating the role of VAT for promoting sustainable growth and fiscal stability. This study assesses the VAT-growth relation in Nepal by applying Barro's growth framework and ARDL model on annual time-series data from 1998 to 2024. The analysis focuses on the crucial policy variables—VAT rate, VAT revenue share of total tax revenue, and C-efficiency ratio— and integrates quantitative evidence with qualitative policy evaluation.

2. VAT Design, Reform, and Challenges in Nepal

An authoritative adjustment in Nepal's fiscal structure was implemented with the introduction of VAT in 1997 by replacing indirect taxes, including sales, hotel, contract, and entertainment taxes, with a single consumption tax utilizing the invoice-credit method to promote neutrality and revenue mobilization (Khadka, 2001). The subsequent policy matrix outlines the broader administrative and economic implications of VAT reform.

Table 1: Policy Matrix- VAT Policy Design, Reforms, and Challenges

| Source Document | Design and Reform: Key VAT Policy Statements (Excerpts / Paraphrase) | Implementation Strategy | Strengths | Weaknesses / Gaps |
|---|---|---|--|---|
| Value Added Tax Act-2052 (Government of Nepal, 1996) | “VAT shall be levied on transactions ... is collected by registered taxpayers ... input tax credit allowed.” (Sections 5, 6, 7), administered through input/output system | Legal designation of VAT as central indirect tax; defined tax base, registration threshold, and compliance obligations | Provides clear foundational structure; introduces input-output credit; universality on imports and domestic sales. | Thresholds initially narrow; small traders excluded; limited capacity provisions for enforcement |
| VAT Rules 2053 (Government of Nepal, 1997) | Rules for detailed registration at section 10, rule 4, invoicing and filing process at section 14, penalty lists at section 26, 29 and tax refund at section 18, 25, 26, must be managed using e-billing compliance, and audit rules. | Operationalization of Act; administrative procedures, monthly returns, documentation standard. | Supports compliance uniformity; enforceable audit and penalty terms | Procedural complexity for small entities; documentation burden and weak enforcement capacity at local IRD offices |
| Amendments ¹ to VAT Act & Rules (Government of Nepal, VAT rules 2053, 22nd Amend, 2020) (Government of Nepal, VAT act Amend, 2024) | Agricultural products are exempted; Increase the Registration Threshold and Implement Digital Tax Invoicing Requirements for Non-Residents (VAT act 2053, Amend, 2024). VAT registration threshold changes. Updating invoicing or record-keeping procedures, Changing exemptions or refund rules (VAT rules 2053, 22th Amend, 2020) | Implement digital reporting for non-residents; phased implementation; regulatory updates. Issue clearing up circulars and department directives, Compulsory use of standard tax invoice format, categorizing agriculture goods. | Reduces tax burden on farmers and compliance burden for small businesses. Expands VAT base; captures digital economy. Improves record-keeping; reduces evasion. Encourages compliance; accelerates refunds | Limited awareness among small producers, Short-term revenue loss, Enforcement complexity; risk of non-compliance, Implementation costs, resistance from commercial enterprises, ambiguity from frequent rule changes, and uneven application. |

1 A total of 26 amendments have been made to the VAT Rules, while the VAT Act has been amended through the Financial Act each fiscal year. For the purpose of this study, only the two amendments have been selected.

| Source Document | Design and Reform: Key VAT Policy Statements (Excerpts / Paraphrase) | Implementation Strategy | Strengths | Weaknesses / Gaps |
|---|--|---|---|--|
| IRD VAT-Guidelines 2077(2020). (Ministry of Finance, 2020) and VAT Reform Plan-2081 (Ministry of Finance, 2024) | Input/output systems, tax payer education, e-billing compliance, and audit procedures are to be used to administer VAT; The strategy seeks to increase the more than 80% VAT-efficiency ratio. Apply performance based incentives, increase the tax base, assist digital filing, and risk-based audit. | Capacity building by IRD and taxpayers; training and seminars, filling as digital-first, segmentation of auditing; stakeholder orientation; strategic roadmap for long-term effect. | Standardization tool should be practical; enriches awareness, measurable targets of C-efficiency ratio; stress on digital shift | Inadequate access in remote area, language and technical barriers can be observed for small traders, strategic implementation gaps, resource and roll-out limits |
| Customs Act 2064, Customs Rules 2065 (Government of Nepal, 2008, 2009) | Imported goods are treated as VAT taxable at customs point, customs officers are ratified to collect VAT and enforce compliance for customs VAT. | Integration of customs with VAT collection; border-level tax enforcement; single window mechanism | Captures VAT at import stage; reduces evasion at ports; supports destination principle | Capacity limitations at customs; under-invoicing risk; weak reconciliation with IRD filings |
| 8 Plan (1992–97), 9 Plan (1997–2002), 10 to 14 Plans (2002–2019) (National Planning Commission, Various issues) | Initiated VAT to replace multiple taxes (Plan 8); phased rollout from November 1997 (Plan, 9) persistent focus on expanding compliance, automation, and improving governance (Plan 10-14). | Legal groundwork, institutional setup, education, small trader integration, and long-term administrative modernization. | Strategic foresight, incremental reforms, continuity in agenda. | Weak compliance culture, limited outreach, and poor implementation of planned reforms. |
| 15 Plan (2019–2024). (National Planning Commission, 2019). | The objectives include: “promoting digital financial transactions”; “bringing economic activities of the informal sector under the domain of taxation”; and “strengthening overall fiscal discipline, improving allocation efficiency, and enhancing fiscal sustainability.” | Modernization through improved auditing and digital administration mechanisms. | Aligns with both technology adoption and financial strategy. | Pilot-phase status; lacks full implementation details. |

| Source Document | Design and Reform: Key VAT Policy Statements (Excerpts / Paraphrase) | Implementation Strategy | Strengths | Weaknesses / Gaps |
|---|---|--|--|--|
| 16th Plan (2024–2029) National Planning Commission (2024) | “Reforming the revenue system in a way to contribute to economic growth... by reforming the tax system,” and mentions broadening tax bases through the “use of information technology.” | Digital-first framework; multi-year roadmap to boost VAT yield. | Forward looking, tech-enabled structural reform. | Draft stage; operational details pending provincial rollout. |
| Budget Speech FY1997/98, 2004/05 (Ministry of Finance, 1997, 1998, and 2004) | VAT introduction replacing four categories of taxes, First-year operational start in FY1997/98; VAT rate increased 10% to 13% in FY2004/05. | Statutory and administrative rollout beginning. Field-level enforcement; training of staff. Rate adjustment to boost revenue mobilization. | Policy clarity; foundation arranged. Early institutional stimulus. revenue potential Increased. | Ineffective administrative capacity; low public awareness. Early teething problems with compliance and registration. Increased evasion through the unorganized sector; little impact of enforcement. |
| Budget Speech FY2024/25, FY2025/26 (Ministry of Finance, 2024 and 2025) | Reform to enhance C-efficiency, threshold increase NRs 3 million, e-payment for VAT refund, assertive digital filing stance (2024/25). Proposal on the feasibility study of implementing multiple rates of VAT to the Revenue Advisory Committee. (2025/26) | E-invoicing, audit ranking, compliance segmentation. Base expansion through service inclusion; initial tiered rate structure. | Modernization push; digital compliance incentives. Potential equity improvement and broadening of base. | Implementation complications due to administrative complexity; stakeholder adaptation lag. Risk: monitoring numerous rates could put strain on current system. |
| Fiscal Policy Statements 2022/23 and 2025/26, (Ministry of Finance, Various issues) | Follows progressive and investment-friendly tax structure (FPS-2022/23), for broadening the tax base (FPS, 2023/24); forceful equitable taxation on new business models, and digital transactions (FPS, 2024/25). A tax reform policy framework | Focuses on expanding the tax base by tax structure reform, regulating evasion and promoting digital transactions to decrease leakage which includes legal evaluations, | Unified fiscal planning; revenue growth goals. Renovates the tax system, responding to private sector concerns, and endorses an official and | Strategic rather than operational levels. The policies are strategic, with implementation details and timeframes pending. These measures may |

| Source Document | Design and Reform: Key VAT Policy Statements (Excerpts / Paraphrase) | Implementation Strategy | Strengths | Weaknesses / Gaps |
|--|---|---|--|---|
| | including a review of VAT law, multi-rate VAT study, and a digital payment exemption (2025/26) | feasibility study, policy changes for digital payments, and amnesty programs to recover compliance (FPS 2022/23–2025/26). | digital economy. | create moral hazard for future tax compliance due to the amnesty programs. |
| Medium Term Expenditure Framework (MTEF) 2023/24–2025/26 (Ministry of Finance, various issues) | Aligns VAT reform with multi-year fiscal resource and revenue strategy framework, providing quantitative resource envelopes; guiding revenue mobilization strategies comprises VAT reforms such as e billing mandates, digital audit, and VAT base expansion. | Multiple fiscal years budgeting, relating VAT revenue estimates as policy importance. | Promotes fiscal discipline; aligns VAT targets with planning cycles. | Unpredictable for Plan period MTEF and annual budgets; more expectant revenue estimate; maybe impractical assumptions of VAT. |
| Public Expenditure and Financial Accountability assessments 2013, 2022 (Ministry of Finance, 2013, 2022) | Recognizes that VAT is a vital instrument for mobilizing domestic resources and monitors transparency | Effort for shaping public spending, audit and revenue structures of the economy. | Emphasizing centrality of VAT for fiscal strength. | Matters in execution and accountability through stages. |
| White Paper on Economic Condition (Ministry of Finance, Various issues) | “Starting next fiscal, almost 30% of VAT and excise duty will be shared with lower layers of administration under the revenue-sharing mechanism.” | Fiscal decentralization; revenue-sharing extension to local governments. | Enhances subnational fiscal autonomy and formal VAT channels. | Shared revenue reduces central pool; VAT collection enforcement capacity varies across levels |
| Economic Surveys. (Ministry of Finance, Various issues) | VAT to GDP ratio rising from ~2.3% to ~6.59%; C efficiency ratio increasing 27.4% to peak value 61.4%. | Annual performance tracking; structural diagnostics. | Empirical benchmarking; macro-policy insights. | The survey highlights structural gaps; lacks tactical reform guidance. |
| Monetary Policy Statements. (Nepal Rastra Bank, various issues) | Encourages e-payment and reduces cash economy which is useful to augment VAT traceability. It does not directly issue policy on VAT | Coordination of digital payment infrastructure and IRD systems. | Digital compliance support; reduces hidden economy. | Poor scope outside urban areas; dependency on adoption of ICT. |

| Source Document | Design and Reform: Key VAT Policy Statements (Excerpts / Paraphrase) | Implementation Strategy | Strengths | Weaknesses / Gaps |
|---|--|--|--|---|
| Industrial policy-2010, Industrial Enterprises Act 2020 (Ministry of Industry, Commerce, and Supplies, 2010, 2020) | VAT incentives accessible to export-oriented industries and priority based industries VAT refund for exported goods with a 1-year claim window. | Align VAT refund and waiver to promote industrial growth. Link export reimbursement to VAT policy. | Supports export-led industrialization; tax stability. Encourages export; statutory backing. | Lack of clarity on procedure and time-bound mechanism. Repayment delayed; lack of attention within SMEs. |
| Trade Policy 2015 and Nepal Trade Integration Strategy (NTIS) 2023 (Ministry of Industry, Commerce and Supplies, 2015, 2023) | “Export promotion applying zero-rating VAT rate; validation of VAT aimed at import substitution industries” (TP), VAT refund policy mentioned by way of competitiveness tool (NTIS). | Execution using customs valuation and VAT Act provisions. Export facilitation through smoother VAT mechanisms. | Aligns VAT instruments by trade competitiveness; formal incentives. Improves trade policy integration and external sector growth. | VAT “rationalization” lacks detailed guidelines; implementation inconsistencies. Operational linkages weak; refund delays matter. |
| Foreign Investment & technology Transfer Act-2019, (Government of Nepal, 2019), Investment Board Nepal Guidelines, (Investment Board Nepal, 2024) | “Eligible FDI enterprises shall be granted VAT exemptions on import of capital goods.” (FITTA), Act 2019), Provides tax incentives and “VAT waivers on large infrastructure project inputs”. (IBN) | Through the recommendation of IBN and Customs in coordination with IRD. Depend on the project MOU and MOF agreement, and specify the VAT procedure in each project contract. | Sinks investment barriers and boosts the initial capital infusion; encourages mega investments in specific sectors like tourism, transportation, and energy. | No provision for post-audit VAT recovery in case of misuse; implementation fragmented. Non-uniform policy across sectors; discretionary agreement can create inconsistency. |
| Digital Nepal Framework (Ministry of Communication and Information Technology, 2019) | ICT infrastructure supporting e-billing and VAT computerization. | Build a digital backbone for VAT compliance. | Potential modernization in the long run. | Asymmetrical compliance between vendors and infrastructure rollout. |

Source: Author’s Content Analysis, 2025

In the past decades, Nepal implemented policy reform initiatives supported by the International Monetary Fund (IMF), World Bank, and Asian Development Bank

(ADB). Key measures included: raising the VAT rate from 10 to 13% in FY 2004/05, digitization using e-filing and e-payment from 2012 onwards, implementation through risk-based audits and automated invoice matching, and conducting taxpayer awareness campaigns and service offices. These phased reforms have improved VAT performance which results in VAT revenue increasing to 6.8% share of GDP while C-efficiency ratio to 46% in 2022 (MoF, 2024). However, challenges to maintaining equity and sustainability still persist. Therefore, the budget of FY 2025/26 considers conducting broad study about multi-rate VAT:

“The relevance and practical applicability of implementing multiple VAT rates, taking into account the received suggestions, will be studied”
(Ministry of Finance, 2025).

Theoretically, the VAT system is well designed in Nepal, but its effectiveness is compromised to implementation gaps and administrative weaknesses which together increase tax evasion and ultimately results in a low C-efficiency ratio (Acharya, 2016). Policy gaps limit legislative provisions, extensive exemptions under Schedule 1 of VAT Act 1996, and constrain the tax base for implementing policies to protecting low-income consumers, zero-rate of exports and to maintain high turnover thresholds. This threshold provision keeps the most small and informal businesses outside the VAT net (Dangal, 2018; Oli, 2024).

Likewise, compliance gaps increase revenue losses by increasing tax evasion, non-billing, and fraudulent input credits (Poudel, 2023). Also major scandals from system feebleness deter revenue collection. Similarly, institutional constraints including weak administrative capacity, slow refunds, and limited taxpayer education, further increase non-compliance (Dangal, 2017). The continued use of old IT systems also contributes to compliance gaps. VAT C-efficiency remained low, averaging at 33% up to FY2021/22 (Acharya, 2016), indicating continued underperformance of VAT (Paudel, 2023). Consequently, underperformance of VAT results not only from theoretical flaws but also from policy, compliance, institutional constraints, and administrative issues. Therefore, addressing these issues is essential to improve revenue productivity and fiscal sustainability.

3. Research Methodology

3.1 Theoretical Foundation and Conceptual Framework

The theoretical foundation uses optimal taxation and growth theories. Optimal taxation theory focuses on creating policies that minimize distortions while maximizing welfare (Mankiw et al., 2009). Growth theories offer complementary

insights: exogenous models by Solow (1956) limit long run effects of taxation, whereas neoclassical extensions allow taxes to influence savings and investment during transitional periods (Barro, 1991). Endogenous growth model is additionally connected with fiscal policies like taxation to long-term economic growth through innovation and productivity gain (Barro, 1990).

Tax revenue is supported by financing productive public expenditure and acts as a key driver of economic growth (Barro, 1990). A well-designed tax system not only stimulates growth but also stabilizes macroeconomic outcomes through stabilizing inflation, budget deficits, and balance-of-payment pressures (Acosta-Ormaechea & Morozumi, 2019). Likewise these perspectives justify examining the effect of VAT which is both a revenue instrument and a policy variable, and effectively affects broader economic growth in developing countries like Nepal. These notions are the basis of the conceptual framework (Figure 1).

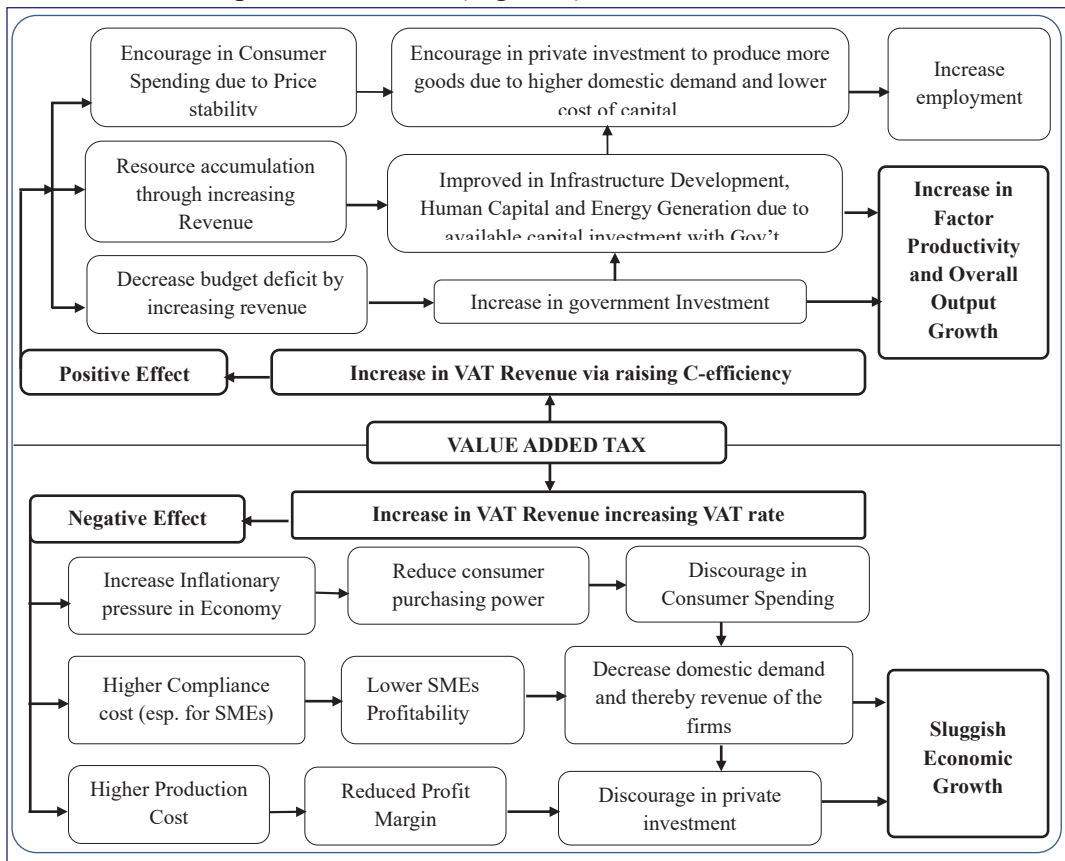


Figure 1: Conceptual Framework-The Channel through VAT to GDP Growth

Source: Author's Formulation, 2025

Improving VAT revenue through better C-efficiency helps governments cut deficits and invest more in infrastructure, human capital, and energy, raising factor productivity and domestic demand (Liu & Mao, 2019). By lowering capital costs, such investments also spur private sector activities which are consistent with the neoclassical view that physical and human capital drive long-run output growth in the economy (Mankiw et al., 2009). Therefore, efficient VAT collection supports government expenditure and ultimately increases employment generation, output to improve sustainable economic growth.

In contrast, the Laffer curve puts forward a non-linear trade-off regarding tax rates and tax revenue generation (Gunter et al., 2019) and shows that high VAT rates may have adverse effects. Elevated rates reduce consumer purchasing power and domestic demand which reduces revenues and profit of firms, especially for small and medium enterprises. Moreover higher production and compliance costs further discourage private investment (Tanzi & Zee, 2000).

Such distortions can slow economic activities, clarifying the trade-off between revenue mobilization and growth. Optimal taxation theory states that though VAT can strengthen fiscal capacity, excessive reliance on high rates without efficiency expansion can generate inflationary pressures and impede private sector-led growth. (Ebrill et al., 2001), and the higher rate also discourages investment through cumulative tax liabilities (Johansson et al., 2008). Thus, VAT design with raised standard rate suppresses capital formation, innovation, and, ultimately productivity growth.

Thus, the core VAT variables- VAT rate, C-efficiency, and VAT revenue share -reflect both statutory rates and administrative efficiency and indicate whether growth is best supported by higher rates or improved compliance, thereby linking the conceptual framework directly to the study's goals.

3.2 Research Design and Data

This study applies a mixed-method to examine the VAT-growth relationship. Qualitative data are used to analyze the objectives using descriptive and inferential statistics using ARDL model in annual time-series data from 1998 to 2024 and qualitative analysis evaluates the policy design and valid quantitative estimate. Qualitative data are taken from review of policy documents, previous empirical findings, and perspectives from experts, academia, and stakeholders.

Table 2: Description of Variables and Data Sources

| Variables (Natural log) | Description ² : | Data Source |
|---|--|---|
| GDP Per Capita (lnGDPPC) | GDP per capita, adjusted to 2010/11 constant prices; represents economic growth | Ministry of Finance (2011, 2019 & 2024) |
| Gross Fixed Capital Formation (lnGFCF) | Gross fixed capital formation, adjusted to 2010/11 constant prices; functions as a measure of physical capital accumulation contributing to economic growth | |
| C-efficiency Ratio (lnCER) | VAT C-efficiency ratio indicates the effectiveness of VAT revenue collection relative to its potential yield and is calculated using C-efficiency tools with adjusted 2010/11 prices of VAT and Consumption. | |
| VAT rate (lnVRATE) | The VAT rate indicates the policy rate which is levied to taxable goods and services. | |
| VAT revenue with Tax revenue ratio (lnVATTAX) | The VAT in total tax revenue captures the relative contribution of VAT revenue to total tax revenue and describes tax structure. | |
| Share of Excise Duties with Total Tax Revenue Ratio (lnEDTAX) | The proportion of total excise duties in total tax revenue shows the weight of excise duties in the fiscal system. | |
| Total Consumption to GDP Ratio (lnCONGDP) | Total consumption as a share of GDP; represents aggregate household consumption and domestic demand. | Nepal Rastra Bank (2025) |

Source: Author's Collected Information, 2025

The qualitative case study uses secondary sources such as government policy documents, IMF, ADB, World Bank assessments, peer-reviewed articles, previously published case studies, policy review, doctoral dissertations related to VAT policy reforms and implementation challenges, grey literature, and interviews. These documents provide contextual insights about VAT reforms in Nepal.

² The variables; VAT to Tax Revenue Ratio, Total Excise Duties to Total Tax Revenue Ratio and Total Consumption to GDP Ratio are ratio of variables and therefore not adjusted at constant prices while c-efficiency is calculated after price adjustment of VAT revenue and final consumption.

Table 3: Descriptive Statistics of the Variables

| Variables Statistics | lnGDPPC | lnGFCF | lnCER | lnVRATE | lnVATTAX | lnEDTAX | lnCONGDP |
|-------------------------|---------|--------|-------|---------|----------|---------|----------|
| Mean | 10.93 | 12.78 | 0.93 | 2.49 | -1.13 | -2.01 | -0.10 |
| Median | 10.98 | 12.83 | 0.98 | 2.57 | -1.13 | -1.95 | -0.10 |
| Maximum | 11.42 | 13.62 | -0.49 | 2.57 | -0.98 | -1.78 | -0.04 |
| Minimum | 10.45 | 11.98 | -1.29 | 2.30 | -1.29 | -2.36 | -0.17 |
| Std. Dev. | 0.34 | 0.57 | 0.23 | 0.12 | 0.08 | 0.18 | 0.03 |
| Observations | 27 | 27 | 27 | 27 | 27 | 27 | 27 |

Source: Author’s computation, 2025.

The descriptive statistics provide a foundational overview of the central tendency and dispersion of the data. Standard deviations indicate generally low variability around the mean, while the relatively higher standard deviation of capital formation reflects greater fluctuations.

3.3 The Empirical Model

A country’s production bottlenecks limit resource efficiency, optimal input allocation, and the substitutability of production factors (Barro, 1991). In this context, Nepal’s economic growth is modeled using the neoclassical growth framework within a Barro-type regression:

$$Y_i = \beta_i + \sum_{i=1}^n \alpha_i X_{it} + \sum_{i=1}^n \gamma_i Z_{it} + \xi_{it} \dots\dots\dots (1)$$

In the framework, GDP per capita serves as a proxy for economic growth (Yi). Explanatory variables include capital and labor (Xi) and policy factors (Zi), includes tax and consumption variables. These variables are selected based on objectives derived and previous studies (Acosta-Ormaechea & Morozumi, 2019; Arnold et al., 2011; Sala-i-Martin, 1997). Based on conceptual framework formulated in the equation (1), the ARDL approach to cointegration test established by Pesaran et al. (1996, 2001) can be formed to estimate the effect of VAT on economic growth in Nepal. The ARDL model is:

$$\begin{aligned} \Delta \ln \text{GDPPC}_t = & \gamma_0 + \sum_{j=1}^p \gamma_j \Delta \ln \text{GDPPC}_{(t-p)} + \sum_{k=1}^q \gamma_k \Delta \ln \text{GFCF}_{(t-q)} + \sum_{l=1}^r \gamma_l \Delta \ln \text{CER}_{(t-r)} + \\ & \sum_{m=1}^s \gamma_m \Delta \ln \text{VRATE}_{(t-s)} + \sum_{n=1}^u \gamma_n \Delta \ln \text{VATTAX}_{(t-u)} + \sum_{o=1}^v \gamma_o \Delta \ln \text{EDTAX}_{(t-v)} + \sum_{x=1}^w \gamma_x \\ & \Delta \ln \text{CONGDP}_{(t-w)} + a_0 + \delta_1 \ln \text{GDPPC}_{(t-1)} + \delta_2 \ln \text{GFCF}_{(t-1)} + \delta_3 \ln \text{CER}_{(t-1)} + \delta_4 \\ & \ln \text{VRATE}_{(t-1)} + \delta_5 \text{VATTAX}_{(t-1)} + \delta_6 \ln \text{EDTAX}_{(t-1)} + \delta_7 \ln \text{CONGDP}_{(t-1)} + \xi \dots \dots \dots (2) \end{aligned}$$

Where, Δ is the first difference operator, and a_0 are constant. The coefficients: δ_i and γ_i represent the long and short-run effects. ξ_t is the usual white noise error term. The error correction term (ECM) is established as:

$$\begin{aligned} \text{ECM}_t = & \varphi_1 \ln \text{GFCF}_t + \varphi_2 \ln \text{CER}_t + \varphi_3 \ln \text{VRATE}_t \\ & + \varphi_4 \ln \text{VATTAX}_t + \varphi_5 \ln \text{EDTAX}_t + \varphi_6 \ln \text{CONGDP}_t + \xi_t \dots \dots \dots (3) \end{aligned}$$

where,

$$\begin{aligned} \varphi_1 = & -\frac{\delta_2}{\delta_1}, \varphi_2 = -\frac{\delta_3}{\delta_1}, \varphi_3 = -\frac{\delta_4}{\delta_1} \\ \varphi_4 = & -\frac{\delta_5}{\delta_1}, \varphi_5 = -\frac{\delta_6}{\delta_1}, \varphi_6 = -\frac{\delta_7}{\delta_1} \end{aligned} \text{ are the OLS estimators.}$$

The study performs stationary tests such as Augmented Dickey Fuller and Philips Perron test. The residual diagnostic test, model misspecification test and stability tests are used to confirm the robustness and reliability of the model.

3.4 Tools of VAT Revenue Performance

The performance of the VAT is measured by using three key ratios- the VAT-to-GDP Ratio (reflecting a country’s economic health and financial stability); the VAT efficiency ratio (VAT revenue/GDP divided by the standard rate which has higher value indicated greater efficiency); and the C-efficiency ratio (VAT revenue divided by the product of the standard rate and total consumption) which broadly measures VAT performance Keen (2013) and formula is:

$$\text{C – efficiency} = \frac{V}{PV^t} \dots \dots \dots (4)$$

Where, numerator V is VAT revenue; PV can be calculated by formula:

$$PV^t = \tau^s (\text{FC} - V) \dots \dots \dots (5)$$

PV^t is the theoretical VAT revenue. τ^s is the VAT standard rate, and FC is final consumption, PV^t is calculated by multiplying final consumption with the standard VAT rate. A higher ratio of actual to theoretical VAT revenue indicates greater collection efficiency and a smaller tax gap.

4. Results and Discussion

4.1 Contribution and Performance of VAT in Nepal

VAT performance in Nepal has gradually strengthened over the years. Improvements in administrative procedures, the rollout of digital invoicing, alongside compliance-oriented reforms have helped to expand the tax base and improve revenue collection. Consequently, VAT has become the most important source of tax revenue in Nepal. The trend clearly reflects the steady rise of C-efficiency and the VAT-to-GDP ratio between 1998 and 2024 (Figure 2; Table 4).

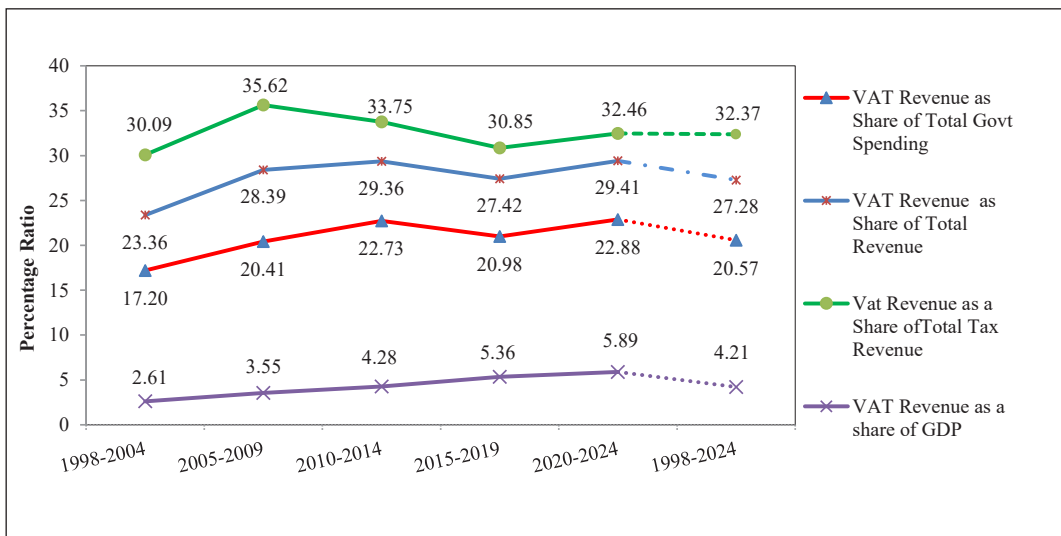


Figure 2: Contribution of VAT in Nepal (Five-Year Periodic Average in Percentage Ratio)

Source: Author’s formulation. 2025

From 1998 to 2024, contribution of VAT revenue to total revenue found average of 27.28%, while its share of total tax revenue found averaged of 32.37%. Its contribution to government spending also increased from 17.20% to 22.88%. The VAT-to-GDP ratio showed a consistent rise from 2.61% to a peak of 5.89% with an average of 4.21% over the period.

Also, marginal VAT efficiency increased from 26.12% to 45.34%. Despite these positive trends, the consumption-based C-efficiency ratio reached 61.40% in FY2018/19 and it improved from 32.54% in 1998-2004 to 52.08% in 2020-2024, with an average of 40.09% over the study period.

Results show suboptimal performance due to compliance gaps, evasion, and limited taxpayer capacity. VAT revenue initially increased due to better policies and higher consumption and then declined as a consequence of inefficiencies, exemptions, and instability.

Table 4: Measurement of VAT Revenue Performance (Five-Year Periodic Average³ in Percentage Ratio)

| Year \ Ratio | VAT to GDP Ratio (%) | VAT efficiency Ratio (%) | C-efficiency Ratio (%) |
|--------------|----------------------|--------------------------|------------------------|
| 1998-2004 | 2.61 | 26.12 | 32.54 |
| 2005-2009 | 3.55 | 28.81 | 33.49 |
| 2010-2014 | 4.28 | 32.90 | 37.77 |
| 2015-2019 | 5.36 | 41.25 | 49.76 |
| 2020-2024 | 5.89 | 45.34 | 52.08 |
| 1998-2024 | 4.21 | 34.23 | 40.49 |

Source: Computed using secondary data collected from MOF, 2025

Finally, it is rebounding due to stronger strategic reform, increased awareness, and a broader base supported by imports. VAT as share of GDP is more than doubled over the study period, reflecting revenue growth. Although the informal sector remains untaxed, it constrains revenue mobilization, as explained by Chapagain (2021).

4.2 Effect of VAT in Nepal

4.2.1 Standard Unit Root Test

Time-series data whose statistical properties change over time are considered a non-stationary time-series (Paudel & Raut, 2022). Moreover, a unit root test assesses whether a time-series variable is non-stationary.

3 Note: The 1998–2004 period spans 7 years to reflect the initial 10% VAT rate before its increase to 13% in November 2005, aligning subsequent data with five-year averages

Table 5: ADF and PP Unit Root Test

| Test Variables | ADF TEST | | | PP Test | | |
|-------------------|-----------|-------------------|-------------|-----------|-------------------|-------------|
| | Intercept | Intercept & Trend | Decision | Intercept | Intercept & Trend | Decision |
| lnGDPPC | -4.62* | -4.56* | <i>I(1)</i> | -4.66* | -4.54* | <i>I(1)</i> |
| lnGFCF | -4.09* | -4.09* | <i>I(1)</i> | -5.09* | -5.09* | <i>I(1)</i> |
| lnCER | -6.03* | -5.97* | <i>I(1)</i> | -6.41* | -6.24* | <i>I(1)</i> |
| lnVRATE | -5.00* | -5.03* | <i>I(1)</i> | -5.00* | -5.04* | <i>I(1)</i> |
| lnVATTTAX | -4.66* | -4.57* | <i>I(1)</i> | -4.24* | -4.35* | <i>I(1)</i> |
| lnEDTAX | -5.55* | -5.59* | <i>I(1)</i> | -6.58* | -9.22* | <i>I(1)</i> |
| lnCONGDP | -2.23** | -3.53*** | <i>I(0)</i> | -3.18** | -3.37*** | <i>I(0)</i> |

Source: Author’s Estimate, 2025

Note: *, ** and *** represent 1%, 5% and 10% significance level.

The results show that all variables are integrated at *I(1)* process in both the intercept and the trend at a 1% significance level, while lnCONGDP is stationary at level, i.e., *I(0)*, at the 5% and 10% significance levels, the satisfying the requirements of the ARDL model.

4.2.2 Bound Test for Cointegration

The ARDL bounds testing approach, developed by Pesaran et al. (2001), is used to examine whether a long-run relationship exists among the variables (Table 6).

Table 6: Results of Bound Test

| Test statistic | Value | Significance | <i>I(0)</i> | <i>I(1)</i> |
|--------------------|-------|--------------|-------------|-------------|
| F-statistics (k=7) | 4.82 | 10% | 2.12 | 3.23 |
| | | 5% | 2.45 | 3.61 |
| | | 1% | 3.15 | 4.43 |

Source: Author’s Estimation, 2025

The results indicate rejection of the null hypothesis of no cointegration. Therefore, a long-run relationship exists in the estimated model as the calculated F-statistic (4.82) which exceeds all upper bounds critical values.

4.2.3 ARDL Regression Estimation

Based on the AIC lag selection criterion, two optimum lags are chosen and ARDL (1, 0, 1, 2, 1, 2, 1) specification was selected for the regression model of lnGDPPC,

lnGFCF, lnCER, lnVRATE, lnVATTAX, lnEDTAX, and lnCONGDP. Table 7 presents the long-run and short-run estimates, alongside statistical summary, model forecasts, diagnostics tests, model misspecification test, and stability tests.

The estimated Model for long run is;

$$\ln\text{GDPPC} = 0.455*\ln\text{GFCF} + 0.106*\ln\text{CER} - 0.117* \ln\text{VRATE} + 0.372*\ln\text{VATTAX} + 0.342* \ln\text{EDTAX} + 0.892*\ln\text{CONGDP}..... (7)$$

This estimate shows a positive link between VAT C-efficiency ratio and GDP per capita in the context of Nepal. A 1% rise in C-efficiency, reflecting more efficient VAT collection from final consumption, results in a 0.11% increase in GDP per capita in the long run ($p<0.05$). The short run coefficient is insignificant, indicating temporary reduction in consumer spending. Similarly, a 1% increase in VAT revenue-to-total-tax ratio increases GDP per capita by 0.37% in the long run ($p<0.05$) and by 0.34% in the short run ($p<0.01$).

Table 7: ARDL (1, 0, 1, 2, 1, 2, 1) Regression Estimate (Dependent Variable: lnGDPPC)

| Long Run Estimate | | | | |
|---|-------------|------------|---------|---------|
| Variables | Coefficient | Std. Error | t-Stats | P-Value |
| Gross Fixed Capital formation.(lnGFCF) | 0.455 | 0.021 | 21.40 | 0.0000 |
| C-efficiency Ratio (lnCER) | 0.107 | 0.036 | 2.963 | 0.0142 |
| VAT rate (lnVRATE) | -0.117 | 0.062 | -1.882 | 0.0892 |
| VAT to total tax Ratio (lnVATTAX) | 0.372 | 0.134 | 2.766 | 0.0199 |
| Excise duties to Total Tax Ratio (lnEDTAX) | 0.342 | 0.045 | 7.562 | 0.0000 |
| Consumption to GDP Ratio (lnCONGDP) | 0.892 | 0.230 | 3.874 | 0.0031 |
| Short Run Estimate | | | | |
| Variables | Coefficient | Std. Err | t-Stats | P-Value |
| Constant (C) | 3.686 | 0.497 | 7.423 | 0.0000 |
| C-efficiency ratio (D(lnCER)) | -0.069 | 0.054 | -1.271 | 0.2325 |
| VAT rate (D(lnVRATE)) | -0.449 | 0.128 | -3.507 | 0.0057 |
| VAT rate (D(lnVRATE-1)) | -0.187 | 0.089 | -2.070 | 0.0642 |
| VAT to Total tax ratio (D(lnVATTAX)) | 0.346 | 0.095 | 3.651 | 0.0045 |
| Excise duties to total tax ratio (D(lnEDTAX)) | 0.065 | 0.062 | 1.044 | 0.3211 |
| Excise duties to total tax ratio (D(lnEDTAX-1)) | -0.259 | 0.152 | -3.287 | 0.0082 |
| Total consumption to GDP ratio (D(lnCONGDP)) | -0.119 | 0.152 | -0.786 | 0.4501 |
| Error correction Mechanism (ECM) | 0.546 | 0.074 | -7.347 | 0.0000 |

| Robustness of Model | | | |
|---|--|-------------------------|----------------|
| Statistical Inference | | Model Forecast | |
| R-Squared | 0.8231 | RMSE | 0.00164 |
| S.E. | 0.7346 | MAE | 0.01191 |
| F-statistics | 9.3030 | MAPE | 0.10929 |
| Prob(F-stat) | 0.0001 | Symmetric MAPE | 0.10931 |
| Econometric Tools: Diagnostic and Stability Test | | | |
| Diagnostic Test | Statistics | Statistics Value | P-Value |
| L-M Test (Autocorrelation) | Observed R-square | 5.579 | 0.0614 |
| Heteroscedasticity Test | Observed R-square | 12.48 | 0.5681 |
| Normality | Jarque Bera Test | 1.331 | 0.5244 |
| Ramsay Reset Test | F-stat | 2.542 | 0.1412 |
| Cusum and Cusum Squares: | Both tests stable within 5% significance level | | |

Source: Author's Estimation, 2025

These findings align with those of Acosta-Ormaechea and Morozumi (2019), Keen (2013), and Aizenman and Jinjarak (2008), who also demonstrate that improving C-efficiency is more growth-enhancing than increasing the standard VAT rate.

The estimate also shows a negative effect of VAT rate on economic growth and it is found that a 1% increase in the VAT rate decreases GDP per capita by 0.12% in the long-run ($p < 0.10$) and causes 0.45% reduction in the short-run ($p < 0.01$). Also, the first lag of VAT rate reduces GDP per capita by 0.18% ($p < 0.10$). This estimate shows that raising the VAT rate hinders steady economic growth, and the finding aligns with previous studies (Alm & El-Ganainy, 2012; Kolahi & Noor, 2016; Acosta-Ormaechea & Morozumi, 2019). In conclusion, higher VAT rates may reduce aggregate consumption, investment, and ultimately, productivity growth.

Among the control variables, the share of excise duties with total tax revenue shows a strong positive long-run effect on GDP per capita by increasing by 0.34% ($p < 0.01$), while the short-run effect found insignificant due to unstable revenue collection. The outcomes of Mandal (2022) and Sapkota (2024) support these results as does Mankiw (2016), who claimed that excise duties not only provide a stable revenue collection but also discourage socially harmful consumption through higher tax-levied.

Further, the gross fixed capital formation increases GDP per capita by 0.45% ($p < 0.01$) in the long run and aligns with Basnet et al. (2022). The neoclassical

theory by Solow (1956) also supports this finding and indicates that sustained capital investment expands productive capacity and fosters long-term growth.

Household consumption also has a positive long-run effect on GDP per capita and increases it by 0.89% ($p < 0.01$) in the long run and is insignificant in short run due to fluctuations in consumption demand. This finding aligns with the Keynesian proposition, which states that aggregate demand drives economic growth.

Finally, the model statistics and forecast statistics show that the estimated model is well-fitted and provides reliable forecasts of the model. The residual diagnostics, model misspecification, and stability tests confirm robustness and reliability of the model.

4.2.4 Stakeholders' Perspectives on VAT Reform

A well-designed VAT system avoids the “cascading” effect of older sales taxes Ebrill et al. (2001) and ensures that it does not distort production decisions or harm trade competitiveness. Conversely, specific policy reform, such as rate change, has produced mixed results depending on the situation. The debate over a single versus multi-rates VAT in Nepal is complex, and stakeholders are divided on the best way to balance administrative efficiency and social equity (Table 8).

Table 8: Stakeholder Perspectives on VAT Reform in Nepal

| Stakeholders | Reform Position | Key Rationale / Evidence |
|---|---|---|
| Single-rate Proponents | | |
| Tax Review Commission-2015 (Kathmandu Post Reporter, 2015) | Denial of reform to multi-rate VAT system | Stated that there was lack of administrative unpreparedness, complexity, and enforcement challenges; the single rate was sustained single rate despite private sector pressure. |
| Chudamani Sharma (Former IRD Director, 2015) (Kathmandu Post, 2015) | Against multi-rate VAT system and suggests watchful gradual reform. | Though the flat 13% VAT rate is simple, it is regressive, as VAT imposed on essential goods is equal to luxuries, which burdens poor people. But the multi-rate VAT system has administrative challenges. States that the current tax system cannot track multiple VAT rates, which may increase risks of leakages and evasion. |

| Stakeholders | Reform Position | Key Rationale / Evidence |
|---|---|--|
| Academic Studies (Poudel, 2023; Ebrill et al., 2001; Keen and Lockwood, 2007, Tait, 1988, de la Feria et al., 2024) | Favor single rate; suggest following compensatory policies. | Efficiency and simplicity matter; equity can be addressed by providing subsidies or social safety nets, rather than imposing multi-rates. Propose alternative approaches such as real-time rebates or targeted transfers, which can preserve equity with-out incurring the efficiency losses associated with multiple rates. |
| Reform-first Actor | | |
| Revenue Advisory Committee -2025. (Republica Reporter, 2025) | Endorses study of multi-rate VAT; expand tax base | Proposed multi-rates to enhance tax collection efficiency and to align with India; curb illicit cross-border trade; expand VAT coverage to new goods (e.g., diamonds, fruits) and selected services. However, it suggested that the government has been reluctant to implement the system, citing concerns over administrative capacity to effectively manage and monitor multi-rate VT structure. |
| Dinesh Ghimire, Revenue secretary (Ministry of Finance, 2024) | Suggest being cautious before rate reform. | Argues that VAT reform must stabilize revenue, equity, and feasibility; strengthening administration should precede rate differentiation. |
| High level tax system reform committee-2024) (Joshi, 2024) | Focus on tax- base, exemption, and suggests for unchanged rate | Recommends removal of tax exemption and broadening the tax base; suggests not changing the standard rate for the next five years. |
| High level economic reform advisory commission -2025, (Ministry of Finance, 2025) | Advice to the government for tax reform stand. | Focused on broader reforms (exchange rate, property tax, investment climate etc). Did not explicitly address VAT rates and suggested tax rates should not increase but recommended policy to increase non-tax revenues because rates are already high in Nepal. |
| Rup Khadka- Tax Expert (Kumar, 2023; Khadka, 2023) | Though supports progressive tax system, doubtful on success of multi-rate VAT | Although, supports progressive taxation for reducing inequality and increasing revenue, but doubtful about multi-rates, which have risks of enforcement failure, higher evasion, and additional costs. Calls for removing VAT exemption for elite class (worth Rs 100b/year). |

| Stakeholders | Reform Position | Key Rationale / Evidence |
|--|---|--|
| Academic research paper (Oli, 2024) | Support multi-rate VAT but suggests being cautious for execution. | Suggests use of reduced rate on essential goods for equity concerns but notes limited administrative capacities and higher compliance cost. Recommends further assessment before approving multi-rate VAT system. |
| Advocates Equity and Differentiated VAT Rate | | |
| Dilliraj Khanal, Economist (Kumar, 2023; DCNepal, 2025) | Critical to VAT flat rate. | The 13% flat rate is regressive. Disproportionately burdening low-income individuals who spend a larger share of income for essential goods. |
| Niraj Paudel, IRD Officer (Paudel, 2023) | Calls for Multi-rate | The single VAT rate is unequal. notes 25 years of VAT Act unchanged; No differentiation between luxury and essential commodities; imposing an unfair burden on lower-income individuals. |
| Anjaan Shakya, Policymaker, (DCNepal, 2025) | Advocates for progressive tax system. | A prerequisite for sustainable development is ensuring wealthy contribution; need funding public services and focus on reducing social inequalities. |
| Lidy Nacpil, Climate, and Tax Justice Activist. (DCNepal, 2025) | Supports progressive and justice-based taxation | Argues that those who are extremely responsible for pollution for profit accumulation should be required to contribute their fair share for climate resilience efforts. |
| Binod K. Sethia, Nepal Foreign Trade Association- NFTA (The Rising Nepal Reporter, 2023) | Toughly supports multi-rate VAT. | High flat VAT encourages illegal trade across the open border. Multi-rate VAT can improve business climate, trade, revenue generation and ultimately trade competitiveness. |
| Private Sector/ Chambers of Commerce (FNCCI), (Republic Reporter, 2023) | Strongly supports multi-rate VAT | Argue lower VAT on essentials and higher on luxuries would reduce smuggling, boost competitiveness, and protect law-abiding firms against illicit traders. |
| Forum for Protection of Consumer Rights Nepal (FPCR) (The Rising Nepal Reporter, 2023) | Advocating either exemption or reduced rates for basic goods. | Arguing that the 13% flat VAT rate disproportionately burdens ordinary consumers and VAT exemptions on essential goods combined with other taxes (agricultural service charge, advance tax, plus the VAT), make total tax on these essential goods very high (e.g. ~23.5%) |

| Stakeholders | Reform Position | Key Rationale / Evidence |
|---|---|---|
| Consumers ⁴ at Diverse Income Levels (Survey, 2025) | Advocating either exemption or reduced rates for basic goods. | Majorities of consumers argue for no VAT on basic needs like food, education, and health services, if imposed, low rate should apply to basic-need goods and Gov't should focus on better policy reform and reduction of tax evasion and inclusion of the informal sector in the tax structure. |
| International Academic Researches, (McLure,1987; Kufanga & Mbewe, 2024) | Suggest for Multi-rate VAT | Suggest a multi-rate VAT and argue to promote equity with lower rate on essential goods can ease the burden on low-income households, while higher rates on luxury and negative externalities goods to enhance fairness. |

Source: Panel discussion, academic research, empirical conclusion, government committee and commission reports, case study, 2025

Single-rate Proponents claim that the administrative capacity of Nepal cannot handle multiple VAT rates without increasing leakages. As former IRD Director **Chudamani Sharma** stated:

“The government’s tax mechanism might not be able to track multiple VAT rates.... it could be more difficult to bring tax evaders under scrutiny if multiple VAT rates are adopted” (Kathmandu Post Reporter, 2015).

Rup Khadka argues that introducing multiple VAT rates may not be practical in the Nepalese context, given the country’s limited administrative capacity and the risk of higher compliance costs; instead, he emphasises revoking substantial VAT exemptions enjoyed by upper-income groups and strengthening enforcement to reduce evasion by the wealthy (Khadka, as cited in Nepali Times, 2023; Dhakal, 2022).

Investigations from national and cross countries supports this stance and advocates that a broad-based single VAT rate minimizes misclassification, reduces evasion, and ensures stable revenue (Tait, 1991; Bird & Gendron, 2007; Keen, 2013).

4 To capture consumer perspectives on VAT policy reform and VAT rates, the author conducted a targeted survey with 50 consumers using social media platforms to study the views of end-users, adding a practical dimension to the policy analysis. The survey included two key questions;

- i. What should the government do to make VAT better, stop tax cheating, and include small businesses or informal sellers in the tax system?
- ii. Do you think basic needs such as food; education, health services, and public transports should be exempt from VAT or taxed at a lower rate? Please explain your view about potential changes in VAT rates.

IMF (2022) and Thomas (2024) also conclude that a single uniform rate performs better than differentiated rates by avoiding complexities and achieving targeted revenue, particularly in countries with limited institutional capacities. In contrast, the regressive nature of the VAT system obstructs its c-efficiency in the developing economies (Kufanga & Mbewe, 2024).

The reform-first actors group stresses the need administrative modernization and digitalization, such as e-invoicing, faceless audit and time-bound refunds, before adjusting VAT rate. The case of Sri Lanka illustrates that higher rate without stronger enforcement can increase evasion, highlighting the important of administrative capacity. Evidence from Ghana, Sri-Lanka, Bangladesh, India, Brazil, Nigeria, and Cote d'Ivoire guide that multi-rates VAT system and exemptions often fail due to worsening complexity, compliance costs, and evasion, when institutional capacity is weak (World Bank, 2020; Government of India, 2022; Oladipupo & Izedonmi, 2013; IMF 2022). Therefore, reform-first actors suggest first strengthening tax administration, and then careful reconsidering the rate structure.

The equity advocator group argues that the flat 13% VAT is regressive, disproportionately burdens low-income households. Economist Dilliraj Khanal claimed that Nepal's tax system benefits the wealthy at the expense of the poor (DCNepal, 2025) and emphasized.

"Society with unequal income and wealth, but equal taxes, burdens the poor and favors the rich, it is a regressive tax system that makes it difficult for the poor to survive," (Khanal, 2023).

Business groups, NFTA, and FNCCI also demand lower VAT on essential goods and higher rates on luxury goods and goods with negative externalities to control smuggling and boost competitiveness at the border. Consumer rights organizations and surveys similarly call for exemptions or reduced rates on food, health, and education. Tax expert; Rup Khadka supports their position, stating:

"A progressive tax system also helps reduce income inequality" (Khadka, 2023).

International evidences show that a multi-rates VAT promote equity, as lower rates on essential goods can ease the burden on low-income households and higher rates on luxury and negative externalities goods enhance fairness (McLure, 1987). The multi-rates VAT system promotes equity and fairness, though it creates administration complexities and often fails to achieve revenue targets (Ebrill et al., 2001; Keen & Lockwood, 2007). The evidence of advanced economies such as the United Kingdom, France, Germany, Denmark, and Mauritania demonstrates that enhanced

institutions and strong administrative capacities ensure the success of multi-rates VAT that address equity concerns (His Majesty Revenue and Customs, 2023; International Monetary Fund, 2019).

However, due to poor institutional and administrative capacities in developing countries, equity concerns can be addressed through progressive taxation and targeted subsidies without changing VAT rates. The phased and evidence-based reforms can balance equity, increase revenue collection, and strengthen administrative capabilities.

Moreover, multi-rates VAT can enhance equity concerns through easing the burden of low-income households on essential goods and taxing more on luxuries and harmful goods (McLure, 1987). Therefore, Nepal could cautiously implement a limited multi-rate VAT, following the general support for multi-rate systems discussed in the literature (Keen & Lockwood, 2007; Warwick et al., 2022). To address the tax system modernization priorities of Tax System Reform Committee–2024, the conditional support for a multi-rates VAT structure by the Revenue Advisory Committee–2025, stakeholders' equity concerns, and private-sector concern over border smuggling and trade competitiveness issues. Although Tait (1988) argues that multi-rate VAT is often inefficient and complex, semi-autonomous revenue authorities (SARAs) through tax decentralization have been as successful evidence in African countries (Taliercio, 2004); Dom 2017; Junquera-Varela et al., 2019; Chilima, 2019), should be implemented to address these issues and strengthen enforcement and compliance.

In conclusion, Nepal could adopt middle path of limited multi-rates VAT⁵ supported by a robust digital system and enforcement system to enhance revenue efficiency. Thus, these reforms can ensure equity concerns of stakeholders.

4.2.5 Discussion

The empirical results using the ARDL estimation provide strong evidence of the multidimensional effects of VAT on economic growth in Nepal. It is found that a 1% increase in VAT C-efficiency leads to a 0.11% rise in long-run GDP per capita significantly, and a 1% increase in VAT revenue share results in a 0.37% rise in

5 The concept of "limited multi-rates VAT" implies only a few rates such as reduced rates for selected items, usually essential goods, and services like food, public transports, medical items and services, or education-related items and services, while most goods are taxed at the standard and higher rates. It restricts complexity by limiting the number of rates, thereby reducing factors such as administrative and compliance burdens, legal ambiguities, consumer confusion, and risks of errors or evasion that make the tax system difficult to manage, comply with, or enforce.

GDP per capita. On the contrary, raising a 1% in the standard VAT rate decreases GDP per capita by a 0.12% in the long-run by a 0.45% in the short run.

This result indicates that C-efficiency is more growth-enhancing than increasing the VAT standard VAT rate. These findings corroborate prior works by Acosta-Ormaechea & Morozumi (2019); Keen (2013); Aizenman & Jinjark (2008); Alm & El-Ganainy (2013); and Kolahi & Noor (2016) which emphasize efficient tax collection rather than higher rates. Therefore, prioritizing collection efficiency and strengthening administrative capacities is a better strategy for enhancing revenue collection and ultimately sustainable economic growth.

The qualitative analysis of VAT policy supports the quantitative estimates, which shows a persistent gap between policy design and the performance of VAT in Nepal. Rate adjustment alone is ineffective without strong enforcement, digitized compliance systems, and improved administrative capacities. Vibrant administrative reforms like mandatory e-invoicing, faceless services, risk-based audits, VAT registration with PAN-based integration, and time-bound digital refunds are decisive tools for improving cost-effectiveness and reducing leakage and expanding the tax base.

Moreover, the successful evidence from Sub-Saharan Africa shows that, the semi-autonomous revenue authorities (SARAs) is highly relevant for Nepal, used for decentralization and managerial independence, where such institutional design has improved compliance and reduced bureaucratic inefficiencies as indicated by Kiser & Kane, (2001) and Chilima (2019). International experience also indicates that multi-rate VAT systems only work effectively when administrative capacity and digital infrastructure are well-developed; adopting them prematurely can lead to increased evasion and enforcement problems.

From a policy perspective, VAT reform should follow a phased and evidence-based process that prioritizes administrative modernization before policy change. Immediate priorities include expanding the tax base, reducing unjustified exemptions, strengthening border coordination with India, increasing transparency and updating annual VAT revenue accounts. Only after achieving measurable Key Performance Indicators (KPIs), such as minimum 80% e-invoicing coverage, refunds within 30 days, faceless services, risk-based audits, and real-time monitoring, Nepal should cautiously consider adopting the policy design of a limited multi-rate VAT, for instance, lower rates on essential goods and higher rates on luxury or negative-externality goods.

Instead, if legislators prefer to retain a single-rate VAT, equity concerns can be addressed through targeted digital offsets and transfers to low-income households, complemented by export zero-rating and time-bound surcharges on luxury or negative-externality goods. These procedures address equity concerns without altering the core VAT rate design. Otherwise, the multi-rates VAT system can be considered when administrative capacities improve. Thus, this study recommends the mid-path approach of adopting a limited multi-rate VAT structure in which few rates are prescribed as per policy requirement.

Adoption of directed reform strategically addresses the trade-offs between equity objectives, administrative complexities, associated legal compliance challenges, and heightened risk of classification disputes that arise from rate differentiation and ultimately improves revenue performance. This suggested policy reform realizes the each concerns, such as the modernization agenda of the Tax System Reform Committee–2024, conditional support for a multi-rate structure of the Revenue Advisory Committee–2025, equity concern of stakeholders, and private-sector concerns over border smuggling and competitiveness issues. This reform can ensure that VAT policy design remains both fiscally sustainable and growth-promoting in Nepal.

5. Conclusion

The study investigates the performance of Value Added Tax (VAT) and its effects on the economic growth of Nepal using an ARDL model and annual time-series data from 1998 to 2024. The model integrates the standard rate, VAT revenue share of total tax revenue, and C-efficiency ratio as key metrics of VAT design, structure, and performance, respectively. A qualitative policy review explores VAT design, policy reforms, and implementation challenges using insights from tax experts, academics, policymakers, and stakeholders. Descriptive results indicate that the C-efficiency ratio peaked at 61.40% in FY2018/19 and averaged 40.49% during the period. This result shows a moderate performance of VAT revenue collection. Empirical findings show that a 1% rise in C-efficiency and VAT revenue share increases long-run GDP per capita by 0.11% and 0.37%, respectively. Conversely, a 1% rise in the VAT rate decreases long-run GDP per capita by 0.12%.

From the policy perspective, the study suggests that the government should concentrate on administrative modernization such as digital invoicing, risk-based audits, time-bound refunds, faceless services, and strengthening compliance mechanisms for broadening the tax base and reducing revenue leakages. Conditional adoption of a limited multi-rate VAT can improve the equity concerns of low-

income groups, but this reform of tax design should be implemented only after strengthening administrative capacities and institutional improvement. However, targeted digital offsets or direct transfers can protect low-income households, which improve equity concern if a single-rate system is retained.

This study contributes to the ongoing dialogue on VAT reform in Nepal and offers clear policy directions for the government, legislators, policymakers, and relevant decision-makers. However, its scope is limited by restricted data coverage, evolving administrative practices, and the inability to entirely capturing the dynamic behavioral effects of VAT policy reform on compliance and tax evasion. Future research should incorporate longitudinal administrative data, compliance behaviour, and distributional analysis to evaluate how digital modernization, institutional reforms and VAT policy design shape equity outcomes for evidence-based VAT reforms in Nepal.

6. Policy Recommendations

Following policy recommendations about VAT reform in Nepal are presented below:

- 1) **Base broadening:** Reduce exemptions, formalize informal sectors, limit special concessions, and expand VAT coverage at high-margin sectors, except exports to promote them given weak export performance in Nepal.
- 2) **Digital-first Implementation:** Implement e-filing, e-payments, mandatory e-invoicing, risk-based audits, faceless services, and a timely digital refund to improve revenue collection efficiency by strengthening administrative and institutional capacity and increasing transparency and taxpayer trust.
- 3) **Equity Consideration:** Apply a limited multi-rate VAT system only if administrative capacities are strengthened; reduce the VAT rate for essential goods or provide targeted transfers for low-income consumers, if a single standard rate is retained.
- 4) **Phased and Evidence-based Reform:** Introduce reform gradually; monitor Key Performance Indicators (KPI) such as e-invoicing coverage, time-bound refunds, risk-based audits, faceless services, and broader monitoring, and adjust policy measures based performance outcomes.
- 5) **Adoption of Semi-autonomous Revenue Authorities (SARAs)/ Decentralization:** Implement provincial level semi-autonomous VAT offices

to increase local compliance, reduce bureaucratic bottlenecks, and allow flexible enforcement tailored to regional economic contexts..

7. Suggested Course of Action

Based on both quantitative and qualitative analyses, policy review, findings, discussion, and conclusion, the following courses of action are suggested for further reform processes to enhance equity concerns, proves c-efficiency and ultimately strengthen economic growth. The suggested courses of action are explained in Table 9.

Table 9: Suggested Courses of Action

| S.N. | Recommendation | Responsible Agency | Suggested Action |
|------|---------------------------------|---|--|
| 1 | Base broadening | Ministry of Finance (MoF), Inland Revenue Department (IRD), Ministry of Industry, Commerce and Supplies, Local Governments, Development Partners. | Immediately review and eliminate non-essential exemptions; design and implement a strategy to formalize key informal sectors; expand VAT coverage to currently untaxed high-margin services/ sectors; maintain current zero-rating for exports to promote trade. |
| 2 | Implementation of Digital-first | IRD, MOF, All Relevant Ministries | Mandate and enforce e-invoicing for all medium and large taxpayers; fully automate and integrate e-filing and e-payments; develop and operationalize a risk-based audit system powered by data analytics; implement a digitized, time-bound refund system; introduce faceless services to enhance transparency, and strengthen taxpayer trust. |
| 3 | Equity Consideration | MOF, IRD, Policymakers | Apply a limited multi-rate VAT; implement a reduced VAT rate for a narrow list of essential goods; impose higher rates on luxury items and negative-externality goods (e.g., more than 25%); prioritize strengthening IRD administrative capacity before considering multi-rate VAT; alternatively, if a single rate is retained, design a direct cash transfer system for low-income households to offset the tax burden. |

| S.N. | Recommendation | Responsible Agency | Suggested Action |
|------|--|--|--|
| 4 | Implementation of SARAs/ decentralization at provincial level | MOF, IRD, Provincial Governments, Policymakers | Draft legislation to grant greater financial and operational autonomy to a semi-autonomous revenue authority (SARA); alternatively, establish provincial-level VAT offices with delegated authority for local compliance and enforcement aligned with regional economic needs, reducing bureaucratic bottlenecks and enabling flexible implementation. |
| 5 | Implementation of Phased and Evidence-based reforms | MOF, IRD, NPC, all related Ministries | Establish a reform monitoring unit to track KPIs continuously, including e-invoicing compliance, refund timelines, and audit success rates; conduct annual policy reviews based on KPI outcomes; pilot reforms in specific sectors before national rollout; implement reforms gradually and adjust policies based on empirical evidence. |

Source: Author's Suggested Course of Action based on findings, 2025.

Conflict of Interest

The author confirms the absence of any conflicts of interest.

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