Performance of Value Added Tax System in Nepal: A Model-based Descriptive Analysis

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ABSTRACT

The implementation of Value Added Tax (VAT) policy in Nepal has completed almost 24 years. The paper intends to assess the VAT performance in terms of revenue collection over the past two decades of its implementation. An econometric modeling and descriptive analysis methods have been applied to analyze secondary time series data extracted from Economic Survey 2021. The revenue growth model is applied to calculate the ratio of change in VAT revenue in the current year over the total VAT revenue of the previous year. The data show that VAT collection has been consistently increasing and the collection gap has been decreasing over the years. The major contributing factors are burgeoning import, soaring private consumption, and newly introduced VAT withholding system.

1. INTRODUCTION

Value added tax (VAT) has been a predominant source of revenue in Nepal since its inception. Around one-third of tax revenue is collected from VAT. The Government of Nepal introduced it in fiscal year (FY) 1997/98 with the objectives of expanding domestic sources of revenue and modernizing tax administration. Standard single rate of VAT is 13 percent for import and domestic supplies, and zero-rate for export and some specified nature of transaction within tax jurisdiction. The standard rate applicable goods and services are specified in the Annex 1 and zero-rated supplies are listed in the Annex 2 of the Value Added Tax Act 2052 (1996). As per VAT laws, a person or a firm having annual turnover greater than statutory threshold transaction is required to get registered for VAT. The statutory threshold for VAT registration is Rs.5 million annual transactions for taxable goods, Rs. 2 million for taxable services, and Rs. 2 million for mixed transactions of taxable goods and services.

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VAT is supposed to be a tax calculated as a positive difference of output tax from the input tax. A registered firm or company calculates its own VAT due for a tax period by deducting VAT paid on all inputs of the production, import, and/or purchase of all capital and/or merchandised goods and services from the VAT charged on the sale or supply of the taxable goods and services. Tax base increases when taxable person get registered for VAT; when the registered taxpayers charge VAT on taxable supplies; and when the registered taxpayer issue tax invoices on transaction value and keep proper books of accounts; when s/he files tax return with actual declaration of output and input taxes; and when s/he pays tax due on time. Taxpayers' voluntary compliance with tax laws; and adhering to the transparency in business further helps increase income tax liability. To this end, the governments have been focusing on reforming tax laws; modernizing tax administration; introducing automation in the operating system so that the taxpayers could enhance compliance with tax policies as well as the tax administration could improve enforcement of tax laws.

The implementation of VAT policies have undergone innumerable challenges over the years. The VAT from import still has been predominant; domestic sources are narrow and dissipating. The government publications have noted that a sizeable number of taxable persons and firms are still out of VAT system; some registered taxpayer persons and firms do not issue tax invoices on transaction value; more than one-third of VAT registrants do not file VAT return on time; the most of the filers underreport the taxable transaction and tax liabilities. The objective of this paper is to analyze the VAT performance for the last two decades and to find the tax gap based on the macroeconomic data.

2. REVIEW OF LITERATURES

VAT is an indirect tax levied on the value addition of the duly registered taxpayers, from the producer, importer down to the retail level taxpayers, in the distribution chain. The basis for VAT is the value addition that takes place at each level in the production and distribution process of goods and services (Khadka, 2001). Due to the credit set-off mechanism, a registered taxpayer can shift tax burden to the final consumers. Tait, (1991) argued for VAT for three reasons, viz, revenue, neutrality, and efficiency. Due to credit set-off mechanism for all capital and merchandised goods and services, and invoice-based transaction, the VAT is supposed to be an efficient and revenue buoyant tax system. It has been recognized that a consumption-type, destination-based, and invoice-backed VAT represents the best general tax on consumption for market economies (Faria, 1995).

The concept of VAT was developed by the German businessman Dr. Wilhelm von Siemens in 1919 (Khadka, 2001) in order to address the cascading problems of the turnover tax and sales tax by allowing for the recovery of taxes paid on both the recurrent and the capital nature business inputs. France introduced in 1954 and extended other European and Latin American countries during the 1960s and 1970s (Ebrill, et. al., 2001). Some countries have introduced it as Goods and Service Tax (GST). As of 2020, more than 160 countries have introduced VAT or GST including India in 2017, Angola in 2019 and Costa Rica in 2020.

VAT is subject to the transaction value of taxable goods and services supplied by the registered taxpayers within the tax jurisdiction. Nepalese VAT is based on the destination principle in which goods and services are taxed at the place where they are consumed irrespective

of its place of production. Imports are taxed and exports are zero-rated. A transaction within the scope of VAT and on which VAT is imposed is commonly called an input and the VAT collected on it is called output tax (Williams, 1996). A registered taxpayer charges VAT on his/her taxable supplies (known as output tax); issues VAT invoice and collects VAT from the customer; and gets credit for the input tax paid on his/her purchase or import. The Nepalese VAT system has adopted the credit invoice method in which tax paid on the purchase of inputs is allowed to deduct from the tax collected from the sale of goods and services. As per law, a registered business house or person is a taxpayer who is authorized to collect VAT on their taxable supplies from the customer. From the perspective of tax burden, the registered business house or person is supposed to be a de jure taxpayer, and the customer to be a de facto taxpayer (Koirala, 2021).

The Value Added Tax Act 2052 (1996) specifies tax exempt goods and services under its Schedule 1. The supply of goods and services other than the goods and services specified in the Schedule 1 is deemed to be a taxable supply. The vendors whose annual taxable supply of goods exceed Rs. 5 million; of services exceeds Rs. 2 million; and supply of mix of goods and services exceeds Rs. 2 million are subject to register for VAT. The VAT rate is 13 percent for import and domestic supply and zero-rate for export transactions. For a tax period, a registered taxpayer calculates his/her VAT liability by deducting input tax from the output tax for the period.

At the micro level, the VAT performance can be analyzed by studying individual taxpayers' compliance status with the tax laws. It is a rigorous and time-consuming method. At the macro level, the VAT performance can be analyzed by studying macroeconomic data. In this paper, a second method has been applied to analyze Nepalese VAT over the years. At the macro level, a production-type VAT is calculated on the sum of all expenditures on gross domestic product (GDP) net of government wage expenditure (Zee, 1995). Under this variant, capital goods purchased by a firm from another firm are not deductible for the tax base in the year of purchase (Khadka, 1989).

Subedi, (2017) argued that, after implementation of VAT, collection of VAT through domestic sources has been just satisfactory as the achievement against the target was met only in a few fiscal years during FY 1997/98 to FY 2015/16. Koirala, (2021) conducted an academic research on the implementation of VAT policy in Nepal and found that the VAT has been dependent upon few large taxpayers and on the few products and services; tax base has not expanded with reference to the increase in the number of taxpayers. He argued that the billing behavior of the VAT registrants is poor; most of the retail level taxpayers hardly issue VAT invoices; under invoicing starts from import and production level down to the retailers; and tax administration has been weak to track and trace tax evasion and to enforce tax laws against non-compliant taxpayers.

3. METHODOLOGY

The paper used descriptive research design to analyze the VAT revenue over the past two decades. The performance of VAT is analyzed with the help of time series data extracted manually from different economic survey reports published by the Ministry of Finance (MoF) during the FY 2010 to 2021. The data included nominal gross domestic product (GDP),

consumption, total VAT, import-based VAT, inland VAT, total tax revenue, and total revenue from FY 1997/98 to FY 2020/21. VAT gaps were estimated for FY 2010/11, 2013/14, 2016/17, 2019/20, and 2020/21 taking into consideration of data availability. Moreover, VAT performances were estimated for FY 1997/98, 2002/03, 2007/08, 2012/13, 2017/18, and FY 2020/21 with five years intervals. The data were analyzed and presented subjectively keeping in mind to show the trend of VAT collection with convenience. The revenue growth model is applied to calculate the ratio of change in VAT revenue in the current year over the total VAT revenue of the previous year. It helps understand revenue effort and policy compliance of the taxpayers.

The potential VAT is estimated based on GDP, gross consumption, private consumption, export, and import data. The efficiency ratio and C' efficiency ratio have been widely used as a summary indicator of the performance of the VAT (Ebrill et al., 2001). The efficiency of the VAT ratio and C'-efficiency ratio are calculated as follows:

$$\text{Efficiency ratio of VAT} = \frac{\text{VAT to GDP Ratio}}{\text{Standard VAT Rate}} \quad \text{...} \quad (2)$$

$$\text{C'-efficiency ratio of VAT} = \frac{\text{VAT to Gross Consupmtion Ratio}}{\text{Standard VAT Rate}} \quad \text{...............................} \quad (3)$$

Equation (2) estimates the efficiency of VAT performance. It is estimated by dividing VAT the to GDP ratio by the standard VAT rate and it measures to what extent the VAT system is represented by national GDP. Likewise, the equation (3) estimates the C'-efficiency ratio. It is estimated dividing VAT to gross consumption ratio by the standard VAT rate and it measures to what extent the VAT system is captured by gross consumption. The standard VAT rate is 13 percent for import and domestic supply and zero-rate for export transactions as per the Value Added Tax Act 2052 (1996). The VAT gap is estimated based on macroeconomic data. The legal changes and other operational aspects of tax administration are also reviewed to identify the causes of implementation gaps. Implementation gaps cover the discrepancies between legal tax base and actual tax collection.

4. RESULTS AND DISCUSSION

4.1 Results

The VAT is subject to aggregate domestic consumption including both private and government consumption except salary and wage expenses. The Government of Nepal has changed base year in order to calculate GDP and national accounts (MoF, 2021). The new base year is set to be FY 2010/11 and hence national account data for FY 2010/11 to FY 2020/21 have been revised accordingly. Earlier national account data were calculated on the basis of base year FY 2001/02. In this paper, VAT base and VAT gaps were estimated based on revised national accounts. The secondary data extracted from the 2021 Economic Survey were compiled and tabulated in Table 1 and analyzed.

Table 1

VAT Gap Analysis

(Rs in million)

SN	Proxy indicators	FY 2010/11	FY 2013/14	FY 2016/17	FY 2019/20	FY 2020/21
1	GDP at producer's price (Y)	1,562,678	2,160,508	3,216,994	4,891,708	4,266,325
2	Gross consumption	1,448,120	2,023440	2,677,600	3,666,300	3,983,970
3	Government consumption except wages and salary	78,390	112,250	167,720	219,300	223,710
4	Private consumption	1,298,000	1,812,210	2,370,600	3,246,430	3,545,280
5	Net export of goods and services (X-M)	-322,520	-574,530	-753,097	-1,061,930	-1,183,900
6	VAT base (3+4+5)	105,3870	1,349,930	1,785,223	2,403,800	2,585,090
7	Potential VAT	137,003	175,491	232,079	312494	336,062
8	Collected VAT	61,660	101,110	161,070	224,020	282,000
9	VAT gap	-75,343	-74,381	-71,009	-88,474	-54,062
10	VAT gap (%)	54.99%	42.38%	30.60%	28.31%	16.09%

Source: Economic Survey, 2021

The consumption-type method was applied to estimate VAT base and VAT gap. Table 1 depicts that the VAT base in current price for FY 2010/11 was estimated to be around Rs. 1053.87 billion and Rs. 2585.09 billion in FY 2020/21; the potential VAT for FY 2010/11 was estimated to be Rs. 137 billion but collected only Rs. 61.66 billion that shows around 55 percent VAT gap for the year. The data showed that VAT base has been increasing over the year but VAT gap has been decreasing over the period. The VAT gap was estimated to be 30.6 percent in FY 2016/17; 28.31 percent in FY 2019/20; and 16.09 percent in FY 2020/21. The major contributing factors for the increment of VAT base were enhanced private consumption and marginal increment of government consumption. In absolute terms, the VAT gap has been increasing from Rs. 75.34 billion in FY 2010/11 to Rs. 88.47 billion in FY 2019/20, but in relative terms, it has been decreasing substantially from 55 percent to 16 percent of GDPs.

VAT has been the backbone of the internal revenues; it has outstripped customs duties since FY 2002/03. The efforts of the tax administration to implement VAT policy and to collect VAT can be assessed by different proxy indicators like VAT-tax revenue ratio, VAT-total revenue ratio, VAT-GDP ratio or efficiency ratio, VAT-consumption ratio or C' efficiency ratio, share of VAT from import and domestic sources etc.

Table 2

Proxy Indicators to Measure VAT Performance

Indicators	FY 1997/98	FY 2002/03	FY 2007/08	FY 2012/13	FY 2017/18	FY 2020/21
GDP (Rs in billion)	300.84	492.23	815.66	1,949.29	3,455.95	4,266.32
Consumption (Rs. in billion)	259.41	450.09	735.47	1,789.86	2,944.76	3,983.97
Import (Rs in billion)	89.00	124.35	271.29	634.90	1,404.21	1,400.62
VAT (Rs. in billion)	7.12	13.46	29.82	83.42	206.81	282.00
Tax revenue (Rs. in billion)	24.71	41.32	86.23	259.22	659.49	870.11
Total revenue (Rs. in billion)	31.71	54.96	108.70	296.03	726.71	938.32
Share of VAT in tax revenue (%)	28.81	32.58	34.58	32.18	31.36	32.41
Tax revenue-to-GDP ratio (%)	8.21	8.39	10.57	13.30	19.08	20.39
Total revenue-to-GDP ratio (%)	10.54	11.17	13.33	15.19	21.03	21.99
VAT-to-GDP ratio (%)	2.37	2.73	3.66	4.28	5.98	6.61
Efficiency of VAT (%)	23.67	27.34	28.12	32.92	46.03	50.85
C' efficiency of VAT (%)	27.45	29.91	31.19	35.85	54.02	54.45
Share of import VAT (%)	62.41	71.09	75.16	60.17	58.99	60.88
Share of inland VAT (%)	37.59	28.91	24.84	39.83	41.01	39.12
Standard VAT rate (%)	10.00	10.00	13.00	13.00	13.00	13.00
Effective VAT rate to the consumption (%)	2.75	2.99	4.05	4.66	7.02	7.08
Per capita VAT (Rs. in K)	NA	NA	1.17	3.07	7.11	9.31

Source: Economic Survey of different years

Table 2 depicts the proxy indicators to measure VAT performance. The VAT collection was Rs. 7.12 billion in the first year of its introduction. It has been gradually increasing and reached to Rs. 282.0 billion in FY 2020/21. The share of VAT in tax revenue increased from 28.81 percent to 32.41 percent during the past 24 years. The VAT-GDP ratios have been increasing marginally from 2.37 percent in FY 1997/98 to 6.61 percent in FY 2020/21. The efficiency ratios have been increasing from 23.67 percent in FY 1997/98 to 50.85 percent in FY 2020/21. It denotes that the VAT has covered more than 50 percent of the GDP in FY 2020/21.

As VAT is charged on domestic consumption, the performance of VAT can be assessed based on domestic consumption. The C' efficiency ratios have been increased from 27.45 percent to 54.45 percent during the past 24 years. However, the VAT has been heavily dependent upon import, the VAT from the domestic transaction has been around 25 percent to 41 percent. The effective rate of VAT on consumption was 2.75 percent to 7.08 percent over the years. The per capita VAT was around Rs 1,170.0 in FY 2007/08 and increased to Rs. 9,310.0 in FY 2020/21.

4.2 Discussion

The VAT was introduced in Nepal with an aim to increase revenue collection from the domestic sources. The paper focused on assessing whether the policy objective has been achieved in terms of VAT collection. The data showed that VAT base has been increasing and VAT gap has been decreasing over the period. The VAT gap from 30.6 percent in the FY 2016/17 has reduced to 16.09 percent in FY 2020/21. The efficiency ratio and C' efficiency ratios denote that at least 50 percent of the GDP and 54 percent of the aggregate consumption is in the VAT regime. It seems contradictory. Given the domestic supply constraints, the import has been alarmingly increasing to meet growing demand from the households of the taxable goods and services. It has helped increase VAT collection of both customs and tax offices. The dark side of VAT performance was noticed in the composition of VAT. The VAT is still import-dependent, more than 60 percent of VAT is found collected from the import and VAT from domestic transactions has been reducing due to non-invoicing or under-invoicing of VAT transaction. Taxpayers' compliance with VAT policies seems to be questionable since around 38.05 percent taxpayers were non-filer and only 11.07 percent tax returns were debit returns that show tax due on the government in FY 2020/21 (IRD, 2021).

On the one hand, the VAT gaps have gradually been reducing but on the other, composite policy non-compliance ratios have been increasing (Koirala, 2021) over the years. The data that shows reducing VAT gaps needs to be further researched so that actual causes of such a contradictory result can be verified. The inflow of remittance has also increased national disposable income that has propelled high import and domestic consumption. The government's discretionary changes in the policies have resulted in a sizable amount of domestic VAT in FY 2019/20 onward. The government amended the Value Added Tax Regulations 2053 (1997) on 29 May 2019 and introduced Rule 6c in order to withhold 50 percent of VAT charged by the taxpayers at the time of payment by the government entities against public procurements. The legal amendment helped increase VAT collection.

5. CONCLUSION

The VAT performance has been satisfactory in terms of revenue collection over past 24 years. The proxy indicators for the measurement of VAT performance showed positive signs in results. The C' efficiency ratios have increased from 27.45 percent to 54.45 percent; effective VAT rate increased from 2.75 percent to 7.08 percent; per capita VAT increased from Rs 1,170.0 in FY 2007/08 to Rs. 9,310.0 in FY 2020/21 over the years. However, the VAT has been heavily dependent upon import; VAT from domestic supply of taxable goods and services has been evaded due to poor compliance of taxpayers with VAT laws in terms of voluntary registration,

keeping proper books of accounts, filing of tax return and payment of VAT due on time. The consumers at the market hardly get tax invoices of their purchases. Taxpayers' compliance with VAT policies have been questionable; around 38.05 percent taxpayers were non-filer; they do not file their tax returns and the taxpayers' compliance with VAT policy is not up to the mark. The government needs to reinvent its operational modality and enforcement capability to address non-invoicing, under-invoicing, and excessive tax evasion head on.

As the study was limited to analyze only secondary data available from the government publications and therefore the researchers are called forth to undertake a comprehensive exploratory study using both primary and secondary data so that they can explore the causal factors for the paradoxical state of the VAT performance so that it may help uncover implementation dynamics or reasons as to why there has been growing volume of VAT collection on the one hand and decreasing policy compliance of the taxpayers on the other.

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