

## **Overview of VAT/GST in Developing Countries**

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## 1 Introduction

Developing countries have multiple tax instruments, each with different strengths. The strength of the income tax is to increase progressivity in the tax system. Excise taxes can effectively include social costs not reflected in price into private costs. Customs and import duties can protect infant industries and encourage import substitution. The strength of the value-added tax (VAT), otherwise referred to as the Goods and Services Tax (GST), is to raise substantial tax revenues at low economic costs.<sup>1</sup>

This strength of the VAT makes it one of the most important tax instruments for developing countries. Developing countries generally require additional tax revenues and often struggle to collect sufficient revenues from direct taxes. The VAT, therefore, plays a critical role towards domestic revenue mobilization and is the major revenue instrument in many developing countries. In Africa, for instance, the largest share of tax revenues are derived from the VAT.

Because of the important role of the VAT in developing countries, understanding the tax, and designing and administering the tax to be revenue productive and provide favorable economic outcomes for developing countries is essential. To assist towards these aims, a series of papers that address key issues for developing countries follow (see Section 6).

Certain issues are not discussed in detail in this series of papers. One prominent issue for developing countries not discussed in detail is the application of VAT on cross-border supplies, also referred to as inter-jurisdictional issues (see Section 3.6).<sup>2</sup> Issues not covered in detail in this series of papers may be covered in the future.

This paper provides an overview of the VAT, which forms the foundation of the remaining papers in this series. It provides insights into the workings of the VAT and other consumption taxes, the basic design elements of the VAT, whether the VAT is regressive, and compliance and administration issues.

## 2 Understanding the VAT and other consumption taxes

### 2.1 Introduction

A general understanding of the VAT and other broad-based consumption taxes, specifically the retail sales tax (RST), is required to appreciate the implications of policy design. Towards such an understanding, this section discusses the general features of a VAT and provides illustrative examples of the workings of the VAT under alternative policy options and compares this to an

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<sup>1</sup> The revenue-raising capabilities of the VAT may partly explain the exceptional rate at which the tax has been adopted. Over 170 countries have already implemented a VAT. About 90 percent of countries with full UN membership apply a VAT. And over the past 20 years, the VAT has been adopted by over 50 countries. The only major economy without a VAT is the United States.

<sup>2</sup> Extensive work has been done on inter-jurisdictional issues and interested readers on this topic are referred to the Organisation for Economic Co-operation and Development's (OECD) publications, especially the *International VAT/GST Guidelines* and *Addressing the Tax Challenges of the Digital Economy: Action 1 - 2015 Final Report*. These publications are complemented with detailed technical guidance to support their coherent implementation and application. These include a report on *Mechanisms for the Effective Collection of VAT/GST where the Supplier is not Located in the Jurisdiction of Taxation*, a report on *The role of digital platforms in the collection of VAT/GST on online sales*, a report on *The Impact of the Growth of the Sharing and Gig Economy on VAT/GST Policy and Administration* and a set of toolkits aimed at supporting their actual implementation in different regions of the world i.e. Digital VAT Toolkits for Latin America and the Caribbean, for Asia-Pacific and for Africa.

RST. It discusses the implications of exempt supplies, zero-rated supplies, and rate changes and whether the VAT can be preferred to an RST in a developing country context.

## 2.2 General features of a VAT

The revenue-productive and economic efficient VAT tends to be a tax that includes the supply of most goods and services in the economy in its base, while allowing VAT registered businesses to deduct the VAT they paid on their purchases (“input VAT”) against the VAT they charge on their supplies (“output VAT”).<sup>3</sup> Where the input VAT exceeds output VAT in a tax period, the revenue administration promptly pays a VAT refund to the business. The VAT is, therefore, referred to as a broad-based tax on consumption, which implies that most goods and services are taxed and the production activities of businesses are not taxed.

In practice, however, few countries’ VATs can be described as a broad-based tax on consumption. Many countries exempt or zero-rate an extensive list of goods and services from the VAT, which generally decreases tax revenues, narrows the base and, in the case of exemptions, taxes the production activities of businesses. VAT refunds are often not promptly paid, which has cash-flow, time value of money, and sometimes exchange rate implications for businesses. In short, VATs are often designed and applied for purposes other than raising revenues at low economic costs.

The following section provides greater detail to understand the implications of VATs as they are applied in practice.

## 2.3 The workings of a VAT

### 2.3.1 Standard-rated VAT and RST

The basic working of the VAT is illustrated below by the supply of a single good through the production-distribution chain. Consider the example where a producer has costs of zero and sells a good for 4,000 (all amounts are VAT exclusive). A manufacturer purchases it (cost of 4,000) and sells for 10,000 to a retailer. The retailer sells the good to a final consumer for 20,000.

Production-distribution chain	Purchases (excl. VAT)	Sales (excl. VAT)
Producer	0	4 000
Manufacturer	4 000	10 000
Retailer	10 000	20 000
Consumer	20 000	-

<sup>3</sup> The VAT deduction is generally limited to the extent that the purchased goods or services will be used to make taxable supplies.

If we assume a standard rate of VAT of 10 percent and that all supplies are subjected to VAT, the VAT consequences will be:

Production-distribution chain	Input VAT	Output VAT	VAT declared
Producer	(0)	400	400
Manufacturer	(400)	1000	600
Retailer	(1000)	2000	1000
Consumer	2000	-	-

Based on these VAT consequences, the VAT inclusive sales prices will be:

Production-distribution chain	Purchases (incl. VAT)	Sales (incl. VAT)
Producer	0	4 400
Manufacturer	4 400	11 000
Retailer	11 000	22 000
Consumer	22 000	-

There are a few important observations from this example. First, the VAT paid by the manufacturer to the producer is again deducted by the manufacturer. The net VAT paid by the manufacturer on its purchases is therefore zero. Even though the producer declares and pays VAT to the authorities, it received this VAT from the manufacturer and its VAT burden is also zero. The same holds throughout the production-distribution chain, besides for the consumer. The consumer pays VAT of 2000 to the retailer, but cannot deduct this VAT since they will not use the good to make supplies charged with VAT. The burden of the VAT is therefore only on the consumer.

Second, although the VAT only burdens the consumer, it is collected at each stage of the production-distribution chain. The VAT is collected from the producer, manufacturer and retailer in proportion to the value-added by each of these suppliers. If the retailer was not VAT registered, VAT would still have been collected on the supply of the good on the value-added up to the point of retail.

Third, the amount of VAT collected throughout the production-distribution chain, being 2,000, is the same as the amount paid by the consumer to the retailer. The consumer will face a tax inclusive price of 22,000, of which 2,000 is VAT. This is the same amount of VAT that is collected throughout the production-distribution chain. The VAT is a tax on consumers, collected throughout the production-distribution chain.

This basic working of the VAT can be contrasted with an RST. The RST does not rely on input tax deductions by producers, but exemption certificates. Assuming the same tax rate as under the VAT, the RST consequences will be:

Production-distribution chain	Input tax	RST	RST declared
Producer	Exempt	Exempt	-
Manufacturer	Exempt	Exempt	-
Retailer	Exempt	2000	2000
Consumer	2000	-	-

The same amount of tax (2,000) is collected under the RST and the VAT. The consumer faces the same tax burden under both taxes. The tax burden on persons that are not final consumers is zero for both the RST and the VAT. Where the tax is collected is, however, different. The RST is fully collected at the retail stage, while the VAT is collected throughout the production-distribution chain. The consequences of these different collection mechanisms are further discussed in Section 2.3.

### 2.3.2 Exempt supplies under the VAT

The example in the previous section can be further developed to illustrate the consequences of exempt supplies under the VAT, which means that VAT is not charged on a supply and no input VAT deduction is allowed. These consequences will differ depending on whether an intermediate good or service or a final good or service is exempt. Consider the consequences if the supply by the manufacturer to the retailer is exempt from VAT, but the supply of the retailer is subjected to VAT. Under this example, the VAT consequences will be:

Production-distribution chain	Input VAT	Output VAT	VAT declared
Producer	(0)	400	400
Manufacturer	400	Exempt	0
Retailer	Exempt	$2000 + \leq 40$	$2000 + \leq 40$
Consumer	$2000 + \leq 40$	-	-

With the exemption on an intermediate good (or service), the total VAT collected throughout the production-distribution chain increased, which means revenues collected increases. This is because the manufacturer cannot deduct input VAT for the VAT paid to the producer, since the manufacturer's supplies are exempt from VAT. In effect, the VAT burden on the manufacturer is 400 and the burden on the consumer is greater than the burden when there was no exemption. To understand why this burden is greater, the effect of the exemption on sales prices should be considered. Consider VAT inclusive sales prices with the exemption:

Production-distribution chain	Purchases (incl. VAT)	Sales (incl. VAT)
Producer	0	4 400
Manufacturer	4 400	10 000 - 10400
Retailer	10 000 - 10 400	22 000 - 22400
Consumer	22 000 - 22400	-

The VAT inclusive sales price is the same for the supply from the producer to the manufacturer, but, subsequently, increases by the amount of non-deductible input VAT that the manufacturer can shift forward in the production-distribution chain. The manufacturer will attempt to shift the entire 400 non-deductible input VAT unto the retailer, but may be unable to do so. If unable to do so, a portion of the non-deductible input VAT will be shifted onto the factors or production or reduce the profit margin of the manufacturer. The final sales price is greater than if all supplies were subjected to the VAT at 10 percent, raising the tax burden on the consumer.

From this example, several negative consequences of exemptions on intermediate goods and services become apparent. The first is that the exemption results in a tax on production. To avoid this tax, the retailer may purchase from a different manufacturer, use a different input, or the retailer may integrate with the manufacturer to not have a supply between these two persons, called vertical integration. In short, the retailer may not purchase from its preferred supplier and economic efficiency is therefore reduced. The consumers' decisions are also distorted since the price has increased. The exemption, therefore, has a negative effect on the economy.

The second is that the exemption may require input VAT apportionments by the manufacturer. If the manufacturer makes other taxable supplies, they will only be able to deduct input VAT to the extent that they make taxable supplies. Making such input VAT apportionments gives rise to administrative and compliance costs and presents an opportunity for the manufacturer to evade the tax by falsely increasing their input VAT apportionment ratio.

The third is that the VAT becomes more complex to comply with and administer. Since certain supplies are subjected to the standard rate and others are exempt, registered persons need to apply the correct VAT treatment to goods and services. Many countries do not sufficiently define exempt goods and services to avoid legal uncertainty. Disputes between taxpayers and authorities on whether a supply is exempt is common and often difficult to resolve. Taken together, a more complex VAT involves greater operational costs and raises uncertainty in the market.

The fourth is that the final price of the good rises. Since the VAT is regressive when measured against income, raising the final price of goods increases the regressivity of the tax system. Further, if the good is exported, the exported good will be less competitive in the international market. The destination principle, which stipulates that VAT should be collected in the country of final consumption, will be violated since some tax is collected in the country of production. In short, the exemption may make the VAT more regressive and reduce the international competitiveness of a country, which can add to foreign exchange shortages that is a challenge in many developing countries.

The VAT consequences are different if the exemption only applies at the retail stage of the production-distribution chain. If the good in the example is subjected the VAT at all previous stages of the chain, but exempt when supplied by the retailer, the consequences will be:

Production-distribution chain	Input VAT	Output VAT	VAT declared
Producer	(0)	400	400
Manufacturer	(400)	1000	600
Retailer	1000	Exempt	-
Consumer	Exempt	-	-

Based on these consequences, the VAT inclusive sales prices will be:

Production-distribution chain	Purchases (incl. VAT)	Sales (incl. VAT)
Producer	0	4 400
Manufacturer	4 400	11 000
Retailer	11 000	20 000 – 21 000
Consumer	20 000 – 21 000	-

Unlike the exemption on intermediate goods or services, the total VAT collected throughout the production-distribution chain has decreased, which means revenues collected decreases. The retailer will not be able to deduct input VAT of 1,000 and will attempt to shift this non-deducted VAT unto the consumer. The consumer will not pay any VAT directly, but will be burdened with the VAT to the extent that the retailer can shift the VAT. The final price of the good paid by the consumer has decreased compared to the previous examples.

The consequence of this exemption is different to the previous example. The VAT remains a tax on production, but since the retailer can supply at a lower price compared to the previous examples, they will not be motivated to change their behavior. The exemption is therefore less distortive for producers. Consumer choices remain distorted since the price has decreased.

The retailer will be required to make input VAT apportionments and, like the previous example, this presents an opportunity for evasion and raises administrative and compliance costs. The same issues to apply the correct tax treatment to goods and services are present under this exemption.

The price of the final good will, however, decrease. This implies that the VAT when measured against income is likely to become less regressive, especially if the exemption is on a good or service predominantly consumed by the poor. The likelihood that the destination principle is violated also decreases since the exemption is further down the production-distribution chain.<sup>4</sup> Only if the retailer exports the good will VAT have been collected in the country of export. If the manufacturer exports the good, the zero-rate, discussed in the next subsection, will take preference over the exemption and no VAT will be collected in the country of export.

In summary, exemptions give rise to several negative consequences. These consequences are more severe where intermediate goods and services are exempt. If exemptions are required for

<sup>4</sup> If the exemption applied earlier in the production-distribution chain and applied to all further stages including the retail stage, the destination principle will more likely be violated.



distributional reasons and warrant a reduction in revenues, these should preferably be limited to final consumer goods that are disproportionately consumed by poor individuals.

### 2.3.3 Zero-rated supplies under the VAT

The consequences of a zero-rated supply, which means VAT is charged at nil percent and input VAT deductions are allowed, will also depend on whether the zero-rate applies to intermediate or final goods and services. Assume that the supply from the manufacturer to the retailer is zero-rated, but all supplies by the retailer are charged with VAT. The VAT consequences are:

Production-distribution chain	Input VAT	Output VAT	VAT declared
Producer	(0)	400	400
Manufacturer	(400)	0	(400)
Retailer	0	2000	2000
Consumer	2000	-	-

The total amount of VAT collected remains unchanged compared to the first example where all supplies are subjected to VAT, being 2,000. Total VAT collected is the same as for the first example. The VAT paid by the consumer is the same and the burden of the VAT only falls on the consumer. However, unlike the first example, the manufacturer's output VAT exceeds their input VAT.

That the manufacturer's output VAT exceeds their input VAT is the major drawback from zero-rate on intermediate goods or services. If the manufacturer has insufficient output VAT to offset the input VAT against, they will require a VAT refund from the revenue administration. If VAT refunds are not promptly paid, the manufacturer will change their behavior and may attempt to avoid the refund by vertically integrating with the producer. Or worse, the manufacturer may not purchase the input, which decreases investment in the economy. Moreover, for companies with presence in several countries, the ability to get a refund promptly is an important element when considering where to implement new facilities.

The likelihood of a VAT refund will persist if final goods or services are zero-rated. Assume the retailer makes a zero-rated supply to the consumer. The VAT consequences will be:

Production-distribution chain	Input VAT	Output VAT	VAT declared
Producer	(0)	400	400
Manufacturer	(400)	1000	600
Retailer	(1000)	0	(1000)
Consumer	0	-	-

Unlike the previous example, the total VAT collected throughout the production-distribution chain is reduced to zero, which means tax revenues collected decreases. The revenue service may be required to refund the VAT collected from the producer and manufacturer to the

retailer. The value of the refund has increased from 400 in the previous example to 1,000. The burden on the consumer has decreased from 2,000 to 0.

Comparing the results from a zero-rate and exemption on final goods and services shows that a zero-rate provides greater relief to consumers than an exemption, at a greater cost of revenues. It is therefore a more aggressive instrument to reduce the regressivity of the VAT. However, this benefit of the zero-rate is not without costs. The major cost is that it increases the likelihood of an increase in the number and value of VAT refund claims. If VAT refunds are not promptly paid, the input VAT represented by the refund becomes a tax on investment equal to the time value of money. Further, it distorts consumer decisions and this may distort production decisions and increases compliance and administrative costs. In short, domestic zero-rated supplies should generally be avoided where administrations struggle to pay VAT refunds promptly.

VAT refunds may also arise where a supply is exported. Where a good or service is exported, the destination principle will apply and the export will be zero-rated. Assume that the manufacturer exported the good. The domestic VAT consequences will be:

Production-distribution chain	Input VAT	Output VAT	VAT declared
Producer	(0)	400	400
Manufacturer	(400)	0	(400)

Since there is no final consumption in the domestic economy, it would be incorrect to say that VAT revenues decrease because of the export. However, a VAT refund may be claimed by the exporter of goods or services. Unlike the previous example, a country cannot reduce the likelihood of this refund by subjecting the export to the standard rate. If VAT refunds to exporters are not paid promptly, these suppliers may be less inclined to export, increasing the trade deficit and likelihood of foreign exchange shortages. This underlines the importance of the VAT refund practices of developing countries, a topic that will receive in-depth attention in another paper in this series.

For the importing country, assuming the same VAT rate, the VAT consequences will be:

Production-distribution chain	Input VAT	Import VAT or Output VAT	VAT collected or declared
Customs		1000	1000
Importer (Retailer)	(1000)	2000	1000
Consumer	2000	-	-

Note that if the country of import applied a different VAT rate to the country of export, the VAT consequences will reflect the rate of the country of import. For instance, if the VAT rate of the importing country was 20 percent, the import VAT would be 2,000, the output VAT charged to the consumer will be 4,000 and the total VAT collected will also be 4,000.

Besides inter-jurisdictional issues, the importation of supplies gives rise to other administrative challenges. One challenge is that the importer may not have output VAT to offset the input on

the import VAT against, ending in a refund position. This is often observed in sectors with large capital inputs and delays in making taxable supplies, such as the extractive industries. Another challenge is that, since there is a break in the audit chain when goods are exported, the value of the imported goods may be underdeclared to evade the tax. Although this is of lesser concern for goods that are intermediate and whereon input VAT would be deducted, this type of tax evasion is common for small consumer goods where the importer is not registered for VAT or a final consumer. Limiting this type of evasion is further discussed in another paper in this series.

#### 2.3.4 *Reduced rates under the VAT*

If the consequences of zero-rated supplies are understood, the consequences of reduced rates, which means applying a VAT rate to certain goods or services that is lower than the standard rate, should be apparent. This is so since a zero-rate is technically also a reduced rate.

It is, however, the case that VAT refunds are less likely when applying a reduced rate than a zero-rate. The likelihood of a VAT refund rises as the difference between the rate paid on purchases and the rate charged on supplies increases. Therefore, if a business paid VAT at the standard rate on their inputs, the greater the rate is reduced on its supplies, the more likely is a VAT refund.

If the manufacturer in the example paid the standard VAT rate of 10 percent on its purchases, but only charged VAT at 3 percent on its supplies, and the retailer also charges VAT at 3 percent, the VAT consequences will be:

<b>Production-distribution chain</b>	<b>Input VAT</b>	<b>Output VAT</b>	<b>VAT declared</b>
Producer	(0)	400	400
Manufacturer	(400)	300	(100)
Retailer	(300)	600	300
Consumer	600	-	-

In the example, the manufacturer would require a VAT refund and revenue would decrease. Further, the retailer needs to differentiate between supplies taxed at the standard rate and reduced rate, while other supplies may be exempt or zero-rated. And the revenue administration needs to ensure that the refund or decreased output VAT is not a result of fraud and evasion. The revenue, compliance and administrative consequences of reduced rates is why experts generally advise against their application.

#### 2.3.5 *VAT rate changes*

The effect of VAT rate changes on most macro-economic indicators will depend on many country-specific factors and is beyond the discussion of this paper. However, the effect of VAT rate changes on inflation is a general concern surrounding the VAT and is briefly discussed in this section.

If VAT rates are increased or decreased, the effect on consumer prices will depend on the pass-through of the VAT by producers unto consumers. Although VAT pass-through will depend

on country and sector-specific variables, the general finding is that VAT increases are predominantly passed unto consumers, while VAT decreases are passed unto consumers to a lesser extent.<sup>5</sup> In terms of inflation, this means that VAT rate increases are generally inflationary and reducing VAT rates may not be effective to reduce inflation.

However, the macro-economic concern regarding VAT rate increases is less whether it increases consumer prices in one period, but whether it has a persistent effect on inflation.<sup>6</sup> Here, the general finding is that the effect of VAT rate increases on inflation is a short-term observation.<sup>7</sup> Increases in VAT rates should, therefore, not pose a major risk to price stability in most contexts.

## 2.4 VAT or RST?

The VAT and the RST differ in their collection mechanisms; the invoice-credit method versus exemption/suspension certificates.<sup>8</sup> The purpose of both mechanisms is to suspend the tax in production. Under the VAT, producers deduct the VAT paid on their costs, called input VAT or input credit against the VAT they charge on their supplies, called output VAT. As shown in the next subsection, the net VAT paid on their costs is therefore zero.<sup>9</sup> The same result is possible by showing exemption certificates; pay nothing, deduct nothing. This is the mechanism of the RST. In theory, both mechanisms only tax consumption. Yet, these mechanisms result in dissimilarities in the feasible base, compliance, and administration of these two taxes.

Considering the base, the mechanism of the VAT has one primary benefit. Under the VAT, the tax can always be charged by suppliers and, thereafter, purchasers account for whether, or to what extent, they will use a good or service in production. Under the RST, whether tax is charged is decided at the point of sale with the purchaser showing an exemption certificate or not. Since RST is fully charged or not charged at all, exemption certificates, in contrast with the invoice-credit method of the VAT, do not allow the consumption part of dual-use goods and services (part production, part consumption) to be taxed.

Some goods and many services are dual-use in nature and cannot feasibly be included in the base of the RST. In contrast, the base of the VAT can feasibly include all value-added in the formal economy, besides the value-added by small businesses that opt not to register, financial intermediation services and residential accommodation services to the extent that there is real growth in the residence's value. These are input taxed under the VAT, meaning some tax is still collected. The feasible base of the VAT is, therefore, broader than the RST.

<sup>5</sup> See, for instance, Shiraishi, K. (2022). Determinants of VAT pass-through under imperfect competition: Evidence from Japan. *Japan and the World Economy*, 61, 101120; Benedek, D., De Mooij, R. A., Keen, M., & Wingender, P. (2020). Varieties of VAT pass through. *International Tax and Public Finance*, 27, 890-930; Fuest, C., Neumeier, F., & Stöhlker, D. (2020). The pass-through of temporary VAT rate cuts: Evidence from German retail prices (No. 341). ifo Working Paper; Benkovskis, K., & Fadejeva, L. (2014). The effect of VAT rate on inflation in Latvia: evidence from CPI microdata. *Applied Economics*, 46(21), 2520-2533;

<sup>6</sup> There are different ways that the effect may be persistent, depending on the theory of inflation relied on.

<sup>7</sup> See, for instance, Gautier, E., & Lalliard, A. (2013). How do VAT changes affect inflation in France?. *Quarterly selection of articles-Bulletin de la Banque de France*, (32), 5-27; Carare, A., & Danninger, S. (2008). Inflation smoothing and the modest effect of VAT in Germany; Tait, A. A. (1991). I. VAT Policy Issues: Structure, Regressivity, Inflation, and Exports. In *Value-Added Tax*. International Monetary Fund.

<sup>8</sup> The VAT can also be applied using the subtraction method, but the invoice-credit method is the common approach.

<sup>9</sup> If the producer does not only make taxable supplies, they will only deduct a portion of input VAT.

The VAT base may also be broader since, unlike the RST, the VAT provides incentives to register for the VAT. Since the VAT provides for input VAT deductions, firms may want to be registered to deduct input VAT and, consequently, charge VAT on their supplies. The RST provides no incentive to register since it is, in theory, only charged on supplies to consumers. This important feature of the VAT is especially relevant for developing countries that may struggle with extensive informality. Once registered for VAT, other taxes can be charged and businesses will enter the formal economy.

The VAT and RST give rise to different compliance costs. The compliance burden and the number of firms required to be registered under the two taxes differ. Since the VAT requires businesses to account for both inputs and outputs, it may have a higher compliance burden than the RST. Further, retailers and non-retail producers whose supplies exceed the compulsory registration threshold must register and account for VAT, while all retailers must register under the RST. This means the average firm size may be greater under the VAT, which may make compliance costs less regressive, but more firms are also likely to be registered under the VAT than RST, which raises administrative costs.

Besides the number of registrants, both the VAT and RST present their own administration challenges. Two unique challenges under the VAT are only registering bona fide firms and paying legitimate refunds due. Only registering bona fide firms is important because the deductibility of input VAT opens the door for fraud. VAT refunds are the primary drawback of the VAT's collection mechanism. The RST avoids most administrative challenges by exempting dual-use goods and services. Including these would present administrative challenges that cannot feasibly be overcome. However, one administration challenge that cannot be avoided under the RST is preventing fraud from the use of falsified exemption certificates or the use of legitimate exemption certificates on the purchase of consumer goods and services.

An administrative advantage of the VAT over the RST is that, generally, VAT will still be collected if there is evasion in the supply chain. Under the RST, if tax is not charged on a sale, no tax is collected on the value of that sale. Under the VAT, if tax is not charged on a supply, input VAT cannot be deducted and it is only tax on the value-added of the supply that is not collected. The VAT is therefore more difficult to evade in its entirety than the RST, which is important for countries with limited administrative capacity.

In summary, the VAT has greater revenue potential than an RST. It allows for a broader base, includes incentives for firms to register and formalize, and fewer revenues are foregone because of evasion. It can exempt small firms from the tax and avoid regressive compliance costs. These features result in it being regarded as the instrument of choice for developing countries. However, under the VAT, special attention needs to be given to administering VAT refunds, setting the threshold at an appropriate level, and only registering legitimate businesses. These issues, amongst others, are discussed in greater detail in the series of papers to follow.

### **3 Basic design elements of a VAT**

#### **3.1 Introduction**

VAT designs are often allocated to two categories: the modern VAT and the traditional VAT. Modern VAT systems are largely based on the New Zealand GST system and are characterised by a single positive rate and limited exemptions. These VATs tend to be simpler taxes to traditional VATs and provide substantial tax revenues at relatively low economic costs.

Traditional VAT systems are largely based on the European Union's common VAT Directive (2006)<sup>10</sup> and are characterised by multiple rates and/or a greater number of exemptions and other complexities. (Cnossen S. , 2019). These VATs generally require higher tax rates than modern VATs to generate similar revenues, which raises the economic costs of these VATs.

Whether applying a modern or traditional VAT, certain design elements are important to the functioning of the VAT. In this section, we discuss the invoice system of the VAT and the decisions involved in defining the tax base, selecting VAT rates, identifying the taxpayer, and a brief discussion of inter-jurisdictional issues.

### **3.2 VAT: An invoice-based tax**

There are two methods in which the value-added of a business can be taxed. The first is similar to an income tax, but rather than profit, the business calculated its value-added<sup>11</sup> at the end of a tax period and a tax rate is applied to this value-added. The second method applies the tax rate not to the value-added of the business directly, but indirectly by applying the tax rate to the components of value-added, which are gross receipts (output taxed) and investment expenditure (input taxed) and allowing input VAT to be deducted from output VAT. This second method relies on VAT invoices to substantiate tax payments and receipts and is, therefore, referred to as the invoice-credit or invoice method and is widely regarded as the preferred manner to tax value-added.

The invoice method is preferred because it creates incentives for businesses to purchase from VAT registered business that charge output VAT, since this output VAT can be deducted as input VAT.<sup>12</sup> In turn, businesses that supply predominantly to other VAT registered businesses will generally have a competitive advantage if registered for VAT, resulting in businesses voluntarily registering for VAT. Further, the use of invoices creates a good audit trail and allows for cross checking with the income tax system (Huxham & Haupt, 1991). For example, where an input tax deduction is sought based on an invoice for goods or services rendered by a supplier, the supplier's financial statements should reflect the amount received on the invoice as part of its gross income.

The reliance on VAT invoices means that these should meet certain requirements to ensure accurate tax collections and limit fraud or evasion. Each country has its own requirements of what constitutes a VAT invoice. As a minimum, a VAT invoice contains the taxpayer identification number of the supplier, the name and address of the supplier, a description of the goods and services to be supplied; the value of the goods and services, the VAT applicable to the supply of goods and services, and a date. In respect of international trade in digital goods, simplified electronic invoices may lower compliance costs.

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<sup>10</sup> This can be the Anglophone, Francophone or Lusophony version.

<sup>11</sup> The value-added would be equal to wages plus business cash flow (referred to the addition-method), or equivalently gross receipts reduced by investment expenditure (referred to the subtraction method).

<sup>12</sup> Purchases from non-registered suppliers would generally include embedded input VAT since these businesses are not allowed to deduct input VAT on its purchases.

### 3.3 Defining the tax base

#### 3.3.1 VAT: A broad-based tax

For the VAT to provide substantial revenues at low economic costs, it should be applied on the broadest possible range of goods and services. As discussed in Section 2.3, VAT exemptions, domestic zero-rated supplies, and reduced rates give rise to many negative consequences. However, the possible range of goods and services that can be taxed would differ substantially between countries because of economic, social, and political differences.

A common concern when applying a broad-based VAT is that doing so would burden the poor disproportionately. Although the entire tax and expenditure system needs to be taken into consideration when determining the equity of the system, it is the case that if the VAT is applied to all goods and services it will be regressive, which means as a proportion of income the poor pay a greater amount of tax than the wealthy. To mitigate this regressivity of VAT, countries can increase tax redistribution to the poor or may zero-rate or exempt a limited number of goods and services relied on by poor households (see Section 4). Besides these concessions, certain supplies are hard-to-tax under the VAT, such as financial services,<sup>13</sup> residential accommodation, and agriculture in low-income countries. In addition, the destination principle, as further discussed in Section 3.6, requires that exported goods and services are zero-rated.

Concessions are often applied for other reasons, such as providing tax incentives, attempting to increase domestic production, attempting to influence consumer behaviour towards pro-social choices, and alleviate political pressures. As far as possible, concessions for these reasons should not be included in the VAT: there are generally other tax instruments better suited to support these objectives and once concessions are granted, they are very hard to remove. VAT concessions often lead to further concessions, a phenomenon referred to as exemption creep.

### 3.4 Selecting the VAT rate

An important design decision is whether a single VAT rate or multiple rates apply. Some countries apply multiple rates, relying on an inverse elasticity approach – that is – to levy a lower tax on commodities for which the demand is more elastic - price changes gives rise to large demand changes - and higher taxes on inelastic commodities – price changes give rise to small demand changes - to minimise the impact of taxation on consumption patterns (Ebrill, Keen, Bodin, & Summers, 2001). A challenge with this approach is that many inelastic commodities tend to be basic necessities, which means higher taxes on these commodities may be regressive. Other countries, therefore, apply lower rates on basic necessities, which are inelastic commodities. As a result, the VAT may be more equitable but becomes more distortive when compared to a single VAT rate.<sup>14</sup>

In some countries, lower VAT rates are applied to stimulate economic activity in certain sectors. For example, the tourism sector in Myanmar is taxed at a reduced VAT rate. Such differentiated VAT rates for different sectors or types of commodities create substantial

<sup>13</sup> In South Africa, only a limited number of financial services are exempt while in Angola, the financial service sector is fully exempt from VAT.

<sup>14</sup> In some cases higher tax on certain commodities are necessary to achieve a specific environmental or health objective. For example, higher taxes on tobacco, alcohol, and fossil fuels. Yet, to apply a higher tax burden on these commodities, excise taxes can be preferred to the VAT.

competitive distortions, opportunities for fraud and evasion, an additional administrative burden for revenue authorities, and raises compliance cost for taxpayers. It results in a much more complex VAT. For example, in India the first standard rate of 18% applies to telephone, banking, insurance, restaurants with alcohol license, tickets to cultural events and cinema, TVs, gaming consoles, while the second standard rate of 12% applies to non-air-conditioned restaurants, construction, intellectual property, some foodstuff, and mobile phones. A reduced rate of 5% applies to privately provided transport, advertising, sugar, tea and coffee, and medicine, while the zero-rate applies to basic foods, postal services, books and newspapers. In the case of India, costly field-audits are required to ensure that restaurants that have both air-conditioned and non-air-conditioned sections, apply the appropriate VAT rate on food supplied to its patrons. It is also costly on the supplier to print different menus for the air-conditioned and non-air-conditioned sections of the restaurant.

In the main, the choice between a single positive rate and multiple rates are premised on administrative and compliance considerations (Cnossen S. , 2019). It cannot be emphasised enough that differentiated VAT rates create an additional administrative burden on revenue authority as well as the taxpayer. Moreover, the prevalence of VAT fraud is higher in VAT systems with multiple VAT rates. Therefore, a single positive VAT rate can generally be preferred to multiple VAT rates.

### **3.5 Identifying the taxpayer**

Not every supplier of goods or services is VAT registered, and therefore, a VAT taxpayer. The difficulty of administering VAT in fragmented economies and economies with large informal sectors dictate a VAT threshold below which firms are not required to register (Bird & Gendron, 2007). Simplified schemes may then apply to businesses below the registration threshold.

The registration threshold and such simplified schemes are discussed in detail in the paper titled “The VAT treatment of small enterprises”, while exemption of certain entities are further discussed here, specifically government entities, charities, and donor-funded projects.

#### *3.5.1 Government entities*

Generally, government entities (except entities that provide service delivery such as water, electricity, telecommunication and entertainment to identifiable consumers) provide services for the public good. For example, the national defence force protects the public at large. The service it renders cannot be attributed to a specific recipient nor do they provide services in exchange for consideration and are, therefore, often exempt from registering for VAT or their specific supplies are exempt.

Such entities pay input VAT to private businesses on their purchases. Yet, they generally do not recover the input VAT from the recipients of the service that they render. Where government entities are exempt, the cost of unclaimed input VAT must be factored in the government budget as an expense or such entities could receive input tax rebates, decreasing tax revenues.<sup>15</sup> Importantly, government entities that render services to specific recipients — for example, electricity, water, education et cetera — must still register for VAT. This is

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<sup>15</sup> Input tax rebates would remove a competitive distortions of government entities preferring to purchase from other exempt government entities to decrease the amount of non-deductible input VAT.



because these entities can recover VAT from its customers the same way the private sector does.

### 3.5.2 *Charities*

Charities and non-profit public benefit organisations generally provide goods and services for no consideration. As such, the goods and services they provide do not attract VAT. For this reason, most countries exempt the supplies of charities and non-profit public benefit organisations from VAT or do not permit these entities to register for VAT. However, as these entities often fulfil the socio-economic needs of society that the government is unable to fulfil, some tax benefits for these entities may be considered. For example:

- A charity may be allowed to register for VAT to recover the input VAT paid on the consumables it acquired in the making of charitable supplies, effectively applying a zero-rate to the supplies of charities.
- Donations of products made by a business to a charity could be relieved from VAT (where they might otherwise be subject to a deemed output rule or an input VAT restriction).

Such rules reduce tax revenues but provide other benefits. The charity benefits from the goods donated, whilst the business is able to usefully dispose of inventory that it no longer requires or would otherwise like to put towards social or humanitarian causes, without incurring additional costs as compared to disposing of those goods to, e.g., landfill. Given such a rule encourages recycling or reuse of products over disposal, there is a direct environmental benefit.

To avoid fraudulent use of these tax benefits, anti-avoidance rules can be put in place. For example, a charity may need to apply to the government (for example, the minister of finance) to be recognised as a charity. Moreover, only charities recognised by the government, and whose names are published by the relevant government department, may benefit from the reliefs and there may be documentation requirements to certify, e.g., that inputs were incurred in the course of charitable activity or that a charity to whom goods were donated is indeed a charity for whom VAT relief applies.

### 3.5.3 *Donor-funded projects*

Similar to charities, some projects are conducted by entities that are funded by donations, the purpose of which is for the public good. Special arrangements can be made for these projects to register for VAT to allow them to claim input VAT on the commodities acquired in the making of supplies under the donor-funded project. Another concession is to exempt the donation received by the entity from VAT. Importantly, to avoid abuse, strict parameters must exist within which the donor-funded project must operate for it to qualify for the VAT concessions. For example, some criteria may include the following: the funding originates from a foreign non-vendor entity; the project must be administered and completed by a government recognised non-profit organisation; the project must be aimed to achieve one or more of the Sustainable Development Goals.

## 3.6 **International trade**

The overarching purpose of a VAT is to levy a tax on final consumption in the taxing jurisdiction, and VAT laws must, therefore, have mechanisms for limiting their scope to

domestic consumption and excluding foreign consumption. There are in theory two possible mechanisms for allocating taxing rights, the destination principle (which allocates taxing rights to the country of consumption) and the origin principle (which allocates taxing rights to the country of production). Perhaps because it seems intuitively correct to tax consumption where it takes place,<sup>16</sup> but also because it has been sanctioned by World Trade Organization (“WTO”),<sup>17</sup> the destination principle is the most widely used approach, making the origin principle a point of comparison rather than a competing principle. It is generally agreed that, under the destination principle, the tax rate on consumption should be determined by the rate applicable in the country of consumption, and all the tax revenue should accrue to that country.

Despite the widespread use of the destination principle, its implementation in practice is complex, particularly because VATs are structured as multi-stage transaction taxes, which tax both business-to-business (B2B) transactions (which do not involve consumption) and business-to-consumer (B2C) transactions (which do). In this context, implementing the destination principle requires particular attention to the treatment of cross-border transactions to ensure that the place of taxation for exported goods or services is the country of import. Where goods or services are supplied from Country A to Country B, the destination principle requires that Country A does not tax the supply and also refunds any VAT charged at earlier stages in the transaction chain; Country B should then recommence the chain of taxation by imposing VAT on the imported goods or services at the rate applicable for similar domestic transactions.<sup>18</sup> The neutrality principle is an integral part of the VAT system, since it is only by ensuring that VAT does not operate as a tax on business that exported goods or services can be free of any VAT imposed at earlier stages in the chain of production and distribution.<sup>19</sup>

There are nonetheless considerable differences in the ways that countries understand the destination principle and implement it in their laws, and there is no VAT equivalent to the Model Tax Treaties and networks of bilateral tax treaties that exist for income tax. In the case of goods, physical border controls make it easier to identify exports and verify the exporter’s entitlement to a refund of any previously imposed VAT. Similarly, border controls provide a point at which imports can be identified and taxed, though collecting tax on low-value goods has traditionally been problematic. In contrast, for services, the intangibility of the supplies means that border controls cannot be used to determine the place of taxation. Instead, the place of taxation is determined by reference to features of the transaction that are likely to most accurately predict the place of consumption.<sup>20</sup>

<sup>16</sup> Liam Ebrill, Michael Keen, Jean-Paul Bodin, and Victoria Summers, *The Modern VAT* (2001: IMF, Washington D.C.) p. 180.

<sup>17</sup> See Footnote 1 of the WTO’s Agreement on Subsidies and Countervailing Measures.

<sup>18</sup> Unless, of course, Country B does not operate a VAT system, in which case no VAT will be charged and the goods will be sold without a tax burden from the countries of production.

<sup>19</sup> The neutrality principle recognises that VAT should not operate as a tax on business because the VAT burden is intended to fall only on final consumption, not on intermediate business transactions.

<sup>20</sup> The OECD set out, in 2017, its recommendations on the key outcomes that countries should achieve through their ‘place of taxation’ rules for services: *see* OECD, *International VAT/GST Guidelines*, (OECD Publishing, Paris, 2017) <https://doi.org/10.1787/9789264271401-en>. The focus on outcomes means that the Guidelines do not dictate the form in which the place of taxation rules giving effect to the destination principle should be drafted. The Guidelines also cover the neutrality principle, both in domestic and international trade. Since 2017, the Guidelines have been supplemented by publications on collection mechanisms for VAT on cross-border trade, and more recently, on the implications of the sharing and gig economies: *see* OECD, *Mechanisms for the Effective Collection of VAT/GST* (OECD Publishing, Paris, 2017); OECD, *The Role of Digital Platforms in the Collection of VAT/GST on Online Sales*, (OECD Publishing, Paris, 2019) <https://doi.org/10.1787/e0e2dd2d-en>; OECD The

While a detailed analysis of the various country practices in giving effect to the destination principle is beyond the scope of this paper, one point of particular recent focus has been the enhancement of countries' capacity to collect VAT on 'imported' services (particularly digital services) and on importations of low-value goods.<sup>21</sup> This work focuses on collecting VAT from foreign suppliers (something previously not thought feasible) – or from the online platforms through which the supplies are made or facilitated. Without going into detail, some of the key considerations for countries wishing to implement these enhancements to their VAT regimes include the following:

- Determining the extent of any required tax base expansions:
  - Analyse the existing place of taxation rules to assess whether current legislation adequately covers the full range of imported services and/or low-value goods the country wishes to tax;
  - Decide whether to impose tax on all imported services or only certain specified digital goods and services; if the latter, carefully consider the chosen definitions to ensure that no unintended inconsistencies will arise;<sup>22</sup>
  - Enact clear and unambiguous place of taxation rules to ensure the intended tax base is covered; if feasible, consider providing extensive guidance on the operation of the new rules;
  - Determine whether a distinction will be made between the collection mechanisms for supplies to consumers (B2C) and supplies to businesses (B2B); in either case, carefully consider which aspects of the compliance and administration framework need to be modified and/or strengthened;<sup>23</sup>
  - Consult closely with businesses from the outset in order to ensure that the changes are effectively implemented; grant appropriate lead times for businesses and tax administrations to ensure that any changes to the VAT rules will work smoothly in practice.

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Impact of the Growth of the Sharing and Gig Economy on VAT/GST Policy and Administration, (OECD Publishing, Paris, 2019) <https://doi.org/10.1787/51825505-en>.

<sup>21</sup> The impetus for such changes arose out of the work of the OECD, most recently its work on collection mechanisms for VAT on cross-border trade (infra), and also from a series of toolkits to implement such regimes, which have been developed jointly by the OECD, the World Bank, and regional organisations: *see* VAT Digital Toolkit for Africa (OECD/WBG/ATAF, 2023), VAT Digital Toolkit for Asia and Pacific (OECD/WBG/ADB 2022), and VAT Digital Toolkit for Latin America and the Caribbean (OECD/WBG/CIAT/IDB, 2021). The toolkits provide step-by-step guidance for the design and implementation of the recommended approaches for the collection of VAT on digital trade, taking account of regional circumstances and challenges.

<sup>22</sup> If some (or all) imported services are already within scope but have not previously been collected, consider whether the existing scope needs modification.

<sup>23</sup> Many countries apply the new regimes for collecting VAT from non-resident suppliers and/or digital platforms only to business-to-consumer (B2C) supplies and not to business-to-business (B2B) supplies, using a reverse charge mechanism for the latter. This facilitates the use of simplified registration and compliance regimes and is generally coupled with a risk management approach to audit. However, this approach requires an effective mechanism for customer tax status verification, which can be difficult if there issues with the integrity of taxpayer registers or challenges with deployment of technology such as APIs for real time verification. In the face of such difficulties, some countries choose not to differentiate between B2B and B2C, but this comes with its own risks, in particular when it comes to verifying input tax deductions for business purchasers. Responses to these risks generally move away from the simplified approach by adding obligations such as withholding mechanisms for non-compliant non-resident suppliers (a response to limitations on the revenue authorities' capacity to enforce jurisdiction against non-residents) and/or requiring suppliers/platforms to submit schedules of transactions (to assist in verifying business customers' input tax deductions).

- Ensuring neutrality:
  - Assess existing legislation for symmetry with the treatment of outbound transactions in order to minimise the risks of double taxation or unintended non-taxation;<sup>24</sup>
  - Consider how foreign businesses and/or platforms that should be registered can be identified and determine what measures (including simplifications to procedures, appropriately structured to protect the tax base) will encourage compliance;
  - Consider whether to implement a simplified ‘pay only’ registration system<sup>25</sup> and whether – and under what conditions – foreign suppliers and/or platforms should be allowed to register under the standard registration system;
  - Consider what level of threshold for registration should apply, taking into account the threshold that applies to domestic businesses.

#### 4 Is the VAT regressive?

Consumption taxes, such as value-added tax (VAT), are commonly considered regressive as they disproportionately affect lower-income individuals who spend a higher proportion of their income on consumption<sup>26</sup>. The regressivity or progressivity of VAT in developing countries is a debated topic, and a large informal sector may affect the burden distribution of the VAT.

This section discusses the evidence of the burden distribution of the VAT in developing countries, including the role of the informal sector. The literature on VAT pass-through to prices and the distribution of the tax burden is summarized, and finally, the section weighs the potential policy options and examines their viability in addressing equity concerns arising from the VAT in a developing country context.

##### 4.1 General burden distribution of the VAT

A VAT applied to all goods and services consumed in the domestic economy will be regressive when measured against income. However, such VATs are not found in practice, especially in the developing country context. Policy measures, such as VAT exemptions, zero-rates, reduced rates, and the registration threshold influences the burden distribution of the VAT.

A study on the burden distribution of the VAT in Bangladesh revealed that the burden of the VAT is disproportionately higher for lower-income individuals compared to those in higher-income groups<sup>27</sup>. However, when certain goods and services are made exempt from the VAT, the burden decreases for lower-income individuals. This finding is consistent with previous research conducted by Fourie (1993) in South Africa, which also discovered a significant

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<sup>24</sup> If the legislation, as amended, asserts jurisdiction to tax an inbound transaction (a supply of services or a supply of low-value goods for importation), the law should ensure that the same outbound transaction (services supplies to another country or low-value goods supplied for export to another country) are not taxed, with any input VAT being fully recoverable.

<sup>25</sup> Under such a system, foreign suppliers/platforms remit the VAT they collect on goods and services sold into the country but are not entitled to deduct input tax. Since the suppliers/platforms have no local presence, they are likely to have little/no input tax burden, which means that such simplified systems can be consistent with the neutrality principle. Applying simplified systems may present challenges in countries that require non-resident suppliers/platforms to remit VAT on both B2B and B2C because the simplifications may make it more difficult to obtain adequate information to verify input claims by VAT-registered customers. On the other hand, imposing more complex systems may have implications which should be carefully considered from the outset.

<sup>26</sup> In Economics, this stylized fact is formalized in the Engel’s law.

<sup>27</sup> Faridy, N., & Sarker, T.(2011). Incidence of Value Added Tax (Vat) in the Developing Countries: A Case in Bangladesh. *International Journal of Trade, Economics and Finance*, 2(5), 437

degree of regressivity in VAT and showed that zero rating creates a significantly more even distribution of burden<sup>28</sup>.

In Pakistan, research found that the general sales tax (GST) is slightly progressive because many goods and services consumed by lower-income individuals are exempt from GST<sup>29</sup>. The VAT system in the Dominican Republic is very progressive as tax administration focuses on collecting taxes from establishments where the cost of collection is low, which tends to be large, formal businesses<sup>30</sup>. The study recognises that tax administrations do not put much effort into the collection of indirect taxes from small shops and open markets because the cost of tax collection is likely to be greater than the VAT revenues collected.

An analysis of the distribution of Ghana's VAT burden and benefits from VAT exemptions across different households revealed that changes in VAT rates between 1998 and 2015 caused a shift in the distribution of the VAT burden from progressive to regressive when measured against income<sup>31</sup>. The trend was primarily caused by changes in household consumption expenditure, where the poorest households experienced increased expenditure on necessities like housing, utilities, transportation and communication. The study also found that as the VAT rates increased, the distribution of benefits from VAT exemptions and zero rate favoured richer households relative to poorer households, possibly because of changes in consumption dynamics, gross abuses of the generous exemptions, or wealthy taxpayers consuming more of these products.

These results suggest that despite attempts to alleviate VAT for the poor through VAT concessions, the burden distribution may remain regressive when measured against income. Since attempts to reduce the VAT burden on the poor would reduce tax revenues, careful consideration is required to ensure that exemptions, zero-rates, or reduced rates are not predominantly a tax benefit to the wealthy and that the resulting tax expenditure warrants the reduction in regressivity of the VAT.

#### 4.2 Measurement of welfare

A further consideration is whether current income, as relied on in the above studies, is the preferred indicator of welfare to assess the burden distribution of the VAT. As argued by Caspersen and Metcalf (1994), consumers may make consumption choices based on lifetime income and not current income. In other words, if a consumer expects to have increased current income in the future, it may increase its expenditure today. If this is the case, consumption may be a better indicator of welfare than current income.

A VAT is applied to all goods and services consumed in the domestic economy will be proportional when measured against consumption. It is therefore no surprise that studies that measure the burden distribution of the VAT in practice against consumption, or another measure of lifetime income, find that the VAT is proportional or slightly progressive (Caspersen and Metcalf, 1994; Thomas, 2022).<sup>32</sup>

<sup>28</sup> Fourie, F., & Owen, A. (1993). Value-added tax and regressivity in South Africa. *South African Journal of Economics*, 61(4), 281-300.

<sup>29</sup> Refaat, S., "Social Incidence of the General Sales Tax in Pakistan", IMF Working Paper WP/03/216 (2003).

<sup>30</sup> Jenkins, G. P., Jenkins, H. P., & Kuo, C. Y. (2006). Is the value added tax naturally progressive?

<sup>31</sup> Francis Kwaw Andoh & Richard Kwabena Nkrumah (2022) Distributional Aspects of Ghana's Value-Added Tax Forum for Social Economics, 51:4, 394-414, DOI: 10.1080/07360932.2021.1977970

<sup>32</sup> Thomas, A. (2022). Reassessing the regressivity of the VAT. *Fiscal Studies*, 43(1), 23-38.

Caspersen, E., & Metcalf, G. (1994).

Is a value added tax regressive? Annual versus lifetime incidence measures. *National Tax Journal*, 47(4), 731-746.

### 4.3 Informality and the burden distribution

Besides VAT concessions and how welfare is measured, whether consumers purchase goods or services in the formal or informal economy can make a substantial difference in the burden distribution of the VAT. First, informal firms are often not registered for VAT, which means VAT is not charged on the value-added of these firms. Further, informal firms may purchase from other non-registered firms to reduce the amount of non-deductible input VAT. It may therefore be that much of the value-added is untaxed where consumers buy goods and services in the informal economy. This is important since in many developing countries, poor individuals tend to purchase goods and services more frequently from the informal economy, while wealthy individuals may more often purchase in the formal economy. If the effective tax rate passed unto consumers is higher in the formal economy than in the informal economy, such purchase patterns will reduce the regressivity of the VAT.

Brusco (2022) provides evidence of the existence of VAT pass-through effect in the informal sector of India's manufacturing industry. The study found that the pass-through effect in the informal sector is lower compared to the formal sector. However, prices in the informal sector still respond to changes in the VAT rate.<sup>33</sup> The lower pass-through in the informal sector means that the tax burden on consumers is lower when purchasing in the informal economy compared to the formal economy.

Bachas (2020) found that in 32 low-and middle-income countries, as income increases, the proportion of the budget spent on informal stores decreases, resulting in a higher effective tax rate on higher-income households, making the tax progressive. He found evidence of tax pass-through for informal stores (14%) and formal stores (77%) from a VAT increase reform in Mexico. He further applied the estimates to the whole sample and the study results showed that VAT is progressive in all these countries after accounting for the pass-through of taxes to informal prices.<sup>34</sup>

Arsic & Altiparmakov (2013) using Serbian data finds that VAT tends to be more progressive in developing countries, owing to the substantial presence of subsistence farming of food<sup>35</sup>. This research suggests that in developing countries with large informal sectors that rely on subsistence farming, the VAT system may not be as regressive as it is in developed countries where the informal sector is less prevalent, and households rely more on the formal markets for their food needs.

In summary, the size of the informal economies in developing countries, together with differences in the purchase patterns of poor and wealthy individuals, may reduce the regressivity of the VAT or result in a progressive VAT when measured against income. This result seems more likely to hold where poor individuals rely on subsistence farming, or obtain their foods from informal markets that are not registered for VAT.

A key take-away is that applying a standard rate to goods or services consumed by poor individuals would not necessarily increase the tax burden on the poor. It is only where VAT is charged on, or embedded in, the purchases of poor individuals that the tax burden may rise.

<sup>33</sup> Brusco, Giacomo, and Tejaswi Velayudhan. "Does the Informal Sector Escape the VAT?." (2022).

<sup>34</sup> Bachas, P., Gadenne, L., & Jensen, A. (2020). Informality, Consumption Taxes, and Redistribution (No. w27429). National Bureau of Economic Research.

<sup>35</sup> Arsić, M., & Altiparmakov, N. (2013). Equity aspects of VAT in emerging European countries: A case study of Serbia. *Economic Systems*, 37(2), 171-186.

#### 4.4 Policy considerations

It should be recognized that the VAT is part of a tax and expenditure system, and it may be argued that the equity implications of this system should be considered, rather than the burden distribution of one tax. There may, therefore, exist more effective instruments to alleviate the tax burden on the poor than policy changes under the VAT. This may include increasing the progressivity of the income tax, or increasing direct cash transfers to poor households.

However, in many developing countries, policy changes under the VAT may be required to address equity concerns. This may be the case where direct cash transfers cannot effectively reach the majority of poor individuals and the minimum threshold under the income tax is already appropriately high. There are several options:

- Exempt certain goods and services which are disproportionately consumed by lower-income groups, and which are likely to be charged with VAT or include embedded VAT. The negative consequences of VAT exemptions, as discussed in Section 2, need to be considered in determining whether the benefit of reduced regressivity outweighs the costs of the exemption.
- Zero-rate certain goods and services which are disproportionately consumed by lower-income groups, and which are likely to be charged with VAT or include embedded VAT. This option may be more effective at addressing equity concerns under the VAT than a VAT exemption, but would result in a greater reduction in revenues and increase the amount of VAT refunds claims. In countries that struggle to administer VAT refunds, the refund implications of this policy option should be carefully considered.
- Reduce the VAT rates on certain goods and services that are predominantly consumed by the poor and which are likely to be charged with VAT or include embedded VAT. With the option of applying exemptions or zero-rates, this option may not be required, especially since multiple rates can significantly increase the complexity of the VAT and, thereby, compliance and administrative costs. They may also give rise to an increase in VAT refund claims.
- Higher VAT rates on certain goods and services that are consumed by wealthy individuals. This option would generally not be required, since increasing the income tax rate or applying excise taxes to luxury goods may be a more efficient option to improve equity outcomes.
- Provide direct VAT recovery for poor individuals. Sometimes referred to as “personalised VAT” this system involves repayment of VAT to qualifying individuals equal to the amount of VAT paid on a selection of goods and services. However, it requires a robust digital system to calculate the repayments of VAT and may be susceptible to fraud by individuals through misrepresentation. If such a system that is robust to fraud can be implemented, concessions under the VAT would no longer be required to address equity concerns.

### 5 Compliance and administration of VAT

VAT administration involves several key elements, including registration, reporting, and compliance. These elements are designed to ensure that businesses and individuals comply with VAT laws and regulations, and that the government can collect the appropriate amount of

tax revenue. They are also elements that determine the complexity of VAT compliance. Thus, it is imperative that they are geared to facilitate voluntary compliance. A tax system can be notionally perfect but deemed inadequate if it is challenging to implement and manage (IMF, 1992).

There are several key elements of VAT administration that a tax authority must manage to collect and enforce the tax effectively.

## 5.1 Registration

The registration and numbering of each taxpayer is fundamental to key administrative processes such as filing, payment, assessment, collection, and reporting to government authorities (IMF TADAT 2019). Performance Outcome Area 1 of the TADAT<sup>36</sup> Field Guide 2019 has the desired outcome that all businesses, individuals, and entities that are required to register are included in the taxpayer registration database. It espouses that the information in the database should be complete, accurate, and up to date.

Businesses are typically required to register for VAT if they make any or exceed a certain threshold of supply of taxable goods or services. This may differ from general registration for tax purposes as persons may be registered for income or other taxes but not be liable to register for VAT purposes because they do not meet the threshold for VAT registration purposes or do not make taxable supplies. Most jurisdictions that apply a VAT registration threshold make provision for voluntary registration by persons who do not exceed the threshold but can meet certain requirements, such as appropriate record keeping. Notwithstanding the above, it is ideal for the taxpayers to have one identification number throughout the tax system. Having one taxpayer identification number (TIN) streamlines administrative processes, enhances tracking and auditing, curtails evasion and fraud that may result from a multiplicity of TIN, optimizes data management, improves taxpayer services, facilitates integration with other systems, is cost-effective by mitigating the need for multiple databases, bolsters compliance, minimizes errors such as mismatches or duplications, and promotes transparency and accountability, though its implementation can pose challenges in countries with complex legacy systems.

VAT registration in developing countries can be a complex and challenging process because of issues such as lack of capacity within the tax administration, weak legal frameworks, and lack of compliance among businesses (Bird and Gedron, 2007).

Unreliable or inaccurate information can severely undermine the effectiveness and integrity of a tax administration. According to the TADAT assessments, many African tax administrations struggle with this issue, particularly at the registration stage. This includes misclassification of taxpayers into their respective sectors. This problem makes it difficult for tax administrations to plan for revenue mobilization and to effectively evaluate the impact of tax policy changes on specific sectors or segments. A survey by the African Tax Administration Forum (ATAF) in 2018 though specific to construction industry, shows that sixty-three percent of participating tax administrations could not ascertain the number of taxpayers registered for VAT purposes while fifty percent of the respondents (taxpayers) indicated that there was an insufficient acquaintance with their VAT obligations including registration.

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<sup>36</sup> Tax Administration Diagnostic Assessment Tool (TADAT) is designed to provide an objective assessment of the health of key components of a country's system of tax administration. This framework focuses on the nine key performance outcome areas that cover most tax administration functions, processes, and institutions.



The TADAT Field Guide 2019 suggests that tax administrations can improve their efficiency and effectiveness by implementing certain practices such as using unique taxpayer identification numbers (TINs), maintaining accurate and reliable databases, identifying, and flagging dormant registrations, ensuring the authenticity of registration applications, and implementing initiatives to detect unregistered businesses and individuals.

Additionally, the guide also describes the essential elements of an IT system that can support these initiatives, these are elements such as validating TINs with check digits, linking associated entities and related parties, mitigating the risk of duplicate or conflicting records, interfacing with other IT subsystems to support filing and payment enforcement, providing a whole-of-taxpayer view of a taxpayer's details across all core taxes, allowing for deactivation or deregistration of taxpayers and archive information, generating registration-related management information, providing an audit trail of user access and changes made to registration data, and providing secure online access to businesses and individuals to register and update details.

The ISORA<sup>37</sup> survey results for 2018 indicate that in-person registration remains the most common method among surveyed countries, with 93.6percent offering it. However, there has been a significant increase in the availability of digital registration channels, such as online or through apps, with 73.7percent of countries offering this option in contrast to 55.8percent for paper registration via mail. The survey also revealed a significant gap in adoption of digital registration channels between high-income and low-income countries, with 92.2percent of high-income countries utilizing them compared to 38.9percent of low-income countries. This highlights the need for digitalization efforts in low-income countries to enhance tax administration and revenue mobilization. (CIAT 2021).

## 5.2 Invoicing

VAT registered taxpayers are typically required by law to issue VAT invoices. The invoices must include the VAT amount charged, as well as the VAT registration number of the business, amongst other information which may differ across jurisdictions.

A VAT invoice is crucial in the VAT system as it serves as a cornerstone for determining VAT liabilities on transactions involving goods or services. It not only facilitates the accurate calculation of the tax due by suppliers, but also enables VAT-registered customers to reclaim the VAT they have been charged, thereby ensuring transparency and compliance within the tax framework. Furthermore, VAT invoices are essential for tax control purposes, as they provide concrete evidence of the transactions between suppliers and purchasers. This documentation is vital for both parties; the purchaser needs the original invoice to support VAT credit claims on deductible inputs, while a copy must be retained to facilitate tax administration's verification of reported sales and claimed purchases. This documentation process underpins the integrity of the VAT system, ensuring that liabilities are accurately established and that entitlements to tax deductions are properly justified.

VAT invoicing can be a complex and challenging issue for tax administrations in developing countries. The lack of compliance among small and medium-sized enterprises (SMEs) is a major concern, as these businesses may not fully understand their VAT obligations or may not be keeping accurate records or issuing proper invoices. This can make it difficult for tax

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<sup>37</sup> International Survey on Revenue Administration

authorities to assess and collect VAT effectively, which can lead to a loss of revenue for the government.

While use of technology such as electronic invoicing as done by Chile, Rwanda and Peru has facilitated compliance, the lack of technology infrastructure still poses a challenge, as many developing countries may not have the necessary infrastructure to support electronic invoicing and other digital systems. This can make it difficult for tax authorities to track and analyse VAT data, which can further complicate the compliance and enforcement of VAT laws and regulations.

### 5.3 Reporting and payment

Submitting tax declarations, also known as tax returns, is the primary method by which a taxpayer's tax liability is determined and the amount due to be paid is established. (IMF TADAT 2019).

VAT registered persons are required to file VAT returns to the tax authority on a regular basis, typically monthly or quarterly. The returns must include the VAT collected and paid during the reporting period. The business must also pay the VAT due to the tax authority by the deadline for the return.

According to CIAT<sup>38</sup>, VAT is reported and paid monthly in most revenue administration of Latin America and Caribbean jurisdictions, although some revenue administrations have different requirements for certain category of taxpayers. Out of 19 LAC jurisdictions, 16percent require bi-monthly filings, 5percent require quarterly filings, 21percent require semi-annual filings, and 26percent require annual filings (CIAT 2016).

Considering that filing of tax returns remains a critical process for all jurisdictions, on-time tax return filing is increasingly being used as a critical performance indicator in tax administration (IMF ISORA 2021). The POA4 of the TADAT Field Guide 2019 provides three performance indicators for evaluating timely declaration of tax declarations. They comprise on-time filing rate, management of non-filers and use of electronic filing facilities.

Based on the ISORA 2018 survey report, the global on-time filing rate for VAT is 86percent, which is higher than that for other major tax categories and stable from 2015 to 2017. In both 2017 and 2015, higher-income areas consistently had higher filing rates for all taxes than other groupings. Small states have lower on-time filing rates, which may be related to a lack of progress in tax administration, challenges brought on by scale, and an inability to benefit from specialization in contemporary tax administration (IMF ISORA 2021). According to CIAT, the rate at which returns are filed in LAC varies based on the frequency of reporting with 66percent of monthly forms submitted on time, while the percentages decrease to 50percent and 49percent for bi-monthly and quarterly reports, respectively.

In terms of filing channel, 79percent of returns were filed electronically in LAC, with the highest percentage being for monthly returns (81 percent), followed by semi-annual (79 percent) and annual (31 percent) returns. Similarly, electronic payments were made for 74 percent of monthly payments and 31 percent of semi-annual payments (CIAT 2016). For African jurisdictions, 73 percent of the tax administrations have an online filing system and 88

<sup>38</sup> Inter-American Center of Tax Administrations

percent have an online payment system with the use of mobile payment systems being at 57percent (ATO 2021).

Notwithstanding the progress made in online filing and payment, more is to be done to improve the on-time filing and payment rate in developing countries. The comparative analysis of TADAT assessments in Africa shows that on-time filing of declarations and on-time payment of tax liabilities rates are low (ATAF & TADAT 2022).

#### 5.4 Refunds

The process for claiming VAT refunds can be complex and time-consuming, and taxpayers may need to provide documentation and proof of their eligibility for the refund.

Jurisdictions have varying rules on the treatment of refunds, ranging from cash refunds to VAT credits to be set off against future output VAT or other taxes. The VAT refund offset is practiced in jurisdictions such as Kenya, Angola, Colombia, Pakistan, Cameroon, Ethiopia, Mexico, Belarus and Tanzania... It is important note that some of the jurisdictions may also have a cash refund system for claims of certain values or conditions.

VAT refund typically constitutes a third of gross VAT revenue with VAT refunds in the EU, for in the range of 40 to 50 percent and less than 20 percent (often below 10 percent) in Africa, Asia, and Latin America (Harrison, G. & Krelove, R. 2005). Governments in developing countries often have a low level of VAT refund due to a combination of factors such as inadequate infrastructure and technology to track and monitor VAT transactions, complex or cumbersome refund rules and process, a lack of trained personnel to handle VAT refund processes, a lack of transparency and accountability in the government's financial systems, and a lack of political will to prioritize VAT refund processes amidst competing demands for government resources and attention.

Beyond the above challenges, refund rules put in place in place to mitigate fraudulent claims can also become impediments to the efficiency of the process. For example, some jurisdictions require that VAT refunds are subject to application by the taxpayer accompanied by submission of additional documents and /or verification exercise (tax audit). In Africa, such provisions have led to compliance with refund claim being an average of twenty-eight hours to comply with a refund claim 38.6 to 109.9 weeks to obtain VAT refund (van Oordt, 2021).

The comparative analysis of African Tax Administrations that have undergone TADAT assessment found that in most cases, the processing time for VAT refunds is not tracked, and even when it is, the refunds are not issued in a timely manner with only 10 percent of them granting refunds in line with the minimum internationally accepted good practice, which requires at least 7 percent of claims to be paid, offset, or declined within 30 days. It also found that the process for granting VAT refunds is also not risk-based, as 8 percent of the assessed tax administrations do not have a risk-based process for VAT refunds, thus resulting delayed refund processing.

Notwithstanding the above, good practices can be found in some developing countries such as the use of a risk-based approach in granting VAT refund in Pakistan (Harrison, G. & Krelove, R. 2005) and the application of automatic refund system in South Africa, Mauritius, Namibia, and Rwanda (ATAF 2019).

The TADAT Field Guideline 2019 emphasizes the importance of promptly paying legitimate tax refunds while implementing measures to prevent fraud, as a crucial aspect of efficient revenue management. It highlights good practices for managing the administration of VAT refunds:

- Requiring proof of identity checks for VAT registration to prevent fictitious traders from accessing the VAT system.
- Use of specialized software to evaluate all VAT refund claims based on risk factors, to differentiate between claimants with good compliance records and those with poor or unknown records. Higher-risk claims will undergo pre-refund audits or other verification, while lower-risk claims may be verified after the refund is issued.
- Legitimate VAT refunds are paid or applied to other tax liabilities in a timely manner (for example, 30 days from the date the refund claim is submitted), and interest is paid to taxpayers when legitimate refunds are not issued in a timely manner.
- Implementing forecasting and monitoring systems to predict levels of VAT refunds and ensure that adequate funds are available to pay all valid refund claims as they arise.

## **5.5 Compliance, monitoring and enforcement**

The tax administration is tasked with ensuring that taxpayers are complying with the VAT rules and regulations, including registering for VAT, issuing correct invoices, submitting accurate VAT returns, and paying the VAT due. Thus, it is pertinent for the tax administration to have effective enforcement measures in place to ensure compliance among taxpayers. This can include regular audits, penalties for non-compliance, and information sharing between tax authorities and other relevant agencies.

ISORA 2018 survey provides some insight into compliance activities by tax administrations. It states that tax administrations dedicate approximately 42 percent of its staff to compliance enforcement activities with an increase in the rate of comprehensive and desk audits in low-income countries, as against a decrease in issue-oriented audits. This is different for high-income countries, with an increase in issue-oriented and desk audit percentages and a decrease in the comprehensive audit percentage. 70 percent of the survey participants put a high priority on VAT fraud in consistency with the higher level of VAT audit coverage as against income tax. The survey also showed that low-income countries prioritized cooperative compliance and exchange of information, followed by pre-assessment verification and tax compliance by design.

As resources are deployed to compliance activities, especially verification (audit), the eminent question is on its effectiveness as a deterrence to non-compliance. A study by Best, Shah and Waseem (2021) on the deterrence value of VAT audit in Pakistan showed that while one-third of firms engage in some tax evasion with 40% of their true tax liability evaded on average, detection without recovery is not an effective deterrent. It is suggested that developing countries allocate more resources towards post-audit recovery, which has a more significant impact in creating deterrence.

Also, increasingly data is playing an integral role in improving compliance monitoring and enforcement using compliance risk framework, especially in an automated environment, to

analyse and gain insight on the compliance behaviour of taxpayers and deploy the appropriate enforcement mechanism towards non-compliance.

Jurisdictions may also explore the benefits of cooperative compliance in VAT, a strategy that shifts from a punitive approach to a collaborative one between tax authorities and taxpayers. This approach offers benefits like faster query responses, reduced legal disputes, and fewer audits, leading to lower administrative and compliance costs and enhanced legal certainty. However, concerns exist about its long-term effectiveness, as it might reduce corporations' compliance and increase their workload. Research also indicates that while improved relationships between tax administrations and corporations enhance corporate income tax compliance, they do not significantly impact value-added tax (VAT) compliance.<sup>39</sup>

## 5.6 Dispute resolution

Dispute resolution process can take place at both the administrative and judicial levels and can include a variety of methods such as negotiation, mediation, arbitration, and litigation. At the administrative level, taxpayers can raise objections and appeals to tax assessments, while at the judicial level, they can take their disputes to court.

Effective dispute resolution in taxation can help to ensure that tax laws are applied consistently and fairly and can also help to improve taxpayer compliance by providing a clear and efficient process for resolving disputes. It also helps in creating a sense of trust between taxpayers and tax authorities, which in turn can lead to increased voluntary compliance. The dispute resolution process should be impartial and autonomous, easily accessible to taxpayers, and proficient in settling disputed issues expeditiously (IMF TADAT 2019).

Beyond domestic dispute resolution, the intensification of globalization has created an environment for increase in cross-border VAT disputes, especially with the absence of a universally accepted mechanism specifically tailored for handling cross border VAT disputes. This scenario underscores the growing necessity for a cohesive and standardized framework dedicated to the efficient and equitable resolution of VAT disputes. Such a framework would aim to ensure the accurate application and accounting of VAT, prevent issues of double taxation or non-taxation, and contribute to the seamless operation of international trade, thereby addressing the complexities brought about by globalization in the VAT domain.

## 5.7 Small and medium enterprises

VAT compliance and administration can be a complex and challenging task for small and medium-sized enterprises (SMEs). These businesses often have limited resources and expertise to navigate the VAT system and may face difficulties in complying with VAT regulations and filing VAT returns. VAT simplification is a key component of making tax compliance less burdensome for these businesses. This can be achieved by implementing measures such as simplifying VAT registration and compliance procedures, reducing the frequency of VAT returns, and providing more accessible and user-friendly guidance on VAT compliance. Additionally, providing SMEs with the option to use simplified VAT accounting systems or flat-rate schemes can also help to reduce compliance costs. These measures can have a significant impact on reducing the administrative burden of VAT compliance for SMEs,

<sup>39</sup> Maarten A. Siglé, Sjoerd Goslinga, Roland F. Speklé, Lisette E.C.J.M. van der Hel (2022). The cooperative approach to corporate tax compliance: An empirical assessment, *Journal of International Accounting, Auditing and Taxation*, Volume 46

making it easier for them to comply with their VAT obligations and allowing them to focus on growing their businesses.

## 5.8 Specific sectors

Certain sectors may present unique administration and compliance challenges to the tax administration. For example, the construction industry often presents challenges particularly when it comes to the supply of goods and services between different companies in the supply chain and the predominance of periodic and retention payment in the sector. The tourism and hospitality industry may also present specific VAT compliance challenges, particularly when it comes to the application of VAT to accommodation and related services. The treatment of financial services can also be a source of challenges as some financial services may be exempt or out of scope from VAT while others are not. Another sector worthy of note is donor funded projects and Non-Governmental Organizations (NGOs) where there is potential for abuse of VAT exemptions and reduced rates. Donor-funded projects and NGOs may be eligible for VAT exemptions or reduced rates, but there is a risk that some entities may take advantage of these concessions and claim them improperly.

## 5.9 New technologies

Technology can play a significant role in helping tax administrations in developing countries improve VAT compliance. There is potential for new technologies, such as blockchain and integrated tax administration systems, to improve VAT compliance and administration. One way technology can assist is by automating VAT returns through software solutions, reducing the administrative burden on taxpayers, and increasing compliance. This also facilitates compliance monitoring, as processing of returns can be automated with risk indicators built into the system for compliance risk assessment, which can also enhance refunds processing. Another way is through implementing electronic invoicing systems, which can improve the accuracy and completeness of VAT records and make it easier for taxpayers to comply with VAT requirements while enabling the tax administration to monitor VAT compliance and providing early warning of potential non-compliance. Furthermore, by using data analytics, tax administration can identify patterns and trends in VAT compliance and non-compliance, helping them to focus their compliance efforts where they are most needed. Technology also facilitates internal and external integration of systems for the exchange of information. However, there are also challenges associated with the adoption of new technologies, including the need for investment and training, as well as potential concerns about data privacy and cybersecurity.

## 6 Conclusion

The strength of the VAT is to collect substantial tax revenues at low economic costs. However, to utilize this strength of the VAT, many developing countries require guidance on the general design and administration of the VAT. Understanding the workings of the VAT, the basic design elements, whether it is regressive, and the key elements of administering the VAT, as discussed in this paper, allows for in-depth discussions on specific issues that are especially important within the developing country context.

Such specific issues are discussed in the remainder of this series of papers and includes:

- The VAT/GST treatment of small enterprises

*This paper discusses the different policy options to treat small enterprises under the VAT. It further discusses the most common option used by countries for small enterprises to keep them out of the VAT system by implementing a registration threshold and how technology can assist small enterprises and tax administration on the collection of VAT.*

- An introduction to VAT/GST refunds

*This paper provides an overview of the various considerations to be taken into account when administering a VAT throughout the value chain. These considerations relate to registration, VAT filing/payment/refund claims, VAT enforcement, debt collection and deregistration. It discusses various options available to tax administrations to effect payment of timely refunds.*

- The use of new technologies to improve VAT compliance

*This paper gives an overview of the different options in technological innovations that may improve VAT compliance. It considers the options to improve the tracking of VAT data, taxpayer services and tax fulfillment to ease voluntary compliance and enhance tax data analysis.*

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