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Article:

De La Feria, R and Schoeman, A (2019) Addressing VAT Fraud in Developing Countries: The Tax Policy-Administration Symbiosis. *Intertax: international tax review*. ISSN 0015-282X

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Addressing VAT Fraud in Developing Countries: The Tax Policy-Administration Symbiosis

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Tax administration is often perceived as separate from tax policy, and at best as the implementation of tax policy. The aim of this article is to highlight the necessary mutual dependence that exists between tax policy and administration, designated here as tax policy-administration symbiosis. It employs the case-study of VAT fraud in African countries, where this practice is commonplace, to consider the range of anti-VAT fraud measures that have been installed in those developing contexts. It is argued that fighting this fraud requires a concerted approach that encompasses various twinned measures of both a legal/policy and administrative nature; in contrast, ad hoc measures, whether legal or administrative, are unlikely to yield as significant results. Our paper specifically defends that administrative measures which seek to enhance compliance are at their most effective when adopted in conjunction with, or in the context of, a legal system that has been designed to minimize the incidence of fraud. Conversely, whilst policy measures can significantly contribute to an increase in VAT compliance in developing countries –particularly through the introduction of a broad base– such measures will be most effective when adopted in conjunction with administrative measures that take into account the administrative constraints, as well as other social factors, that are often present in those settings. The paper concludes by asserting that combating VAT fraud in developing countries, requires recognition of the wider dynamics of the tax policy-administration symbiosis.

I. Introduction

Over 165 countries around the world apply a Value-Added Tax (VAT), accounting for over 20% of worldwide tax revenue.¹ In Africa, of the existing 54 countries, 46 impose a VAT.² Whilst there are various (good) policy reasons for introducing a VAT, one of the most important ones has been its perceived imperviousness to fraud. The inclusion of consumption taxes in the tax mix is traditionally seen as a mechanism for spreading the risk of non-compliance,³ and VAT is perceived as less susceptible to fraud than its principal alternative, namely Retail Sales Tax (RST). This comparative advantage is attributable to the multi-stage nature of VAT, which requires the tax to be collected on business-to-business transactions, but allows businesses to credit the VAT paid on their purchases

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¹ K. James, *The Rise of the Value Added Tax* (Cambridge University Press, 2015); M. Keen and B. Lockwood, *The Value Added Tax: Its Causes and its Consequences*, 92 *Journal of Development Economics* 2, 138-151 (2010); and L. Ebrill, M. Keen, J. Bodin and V. Summers, *The Modern VAT* (IMF, 2001).

² A. Schenk, V. Thuronyi and W. Cui, *Value added tax : a comparative approach* (Cambridge University Press, 2015); OECD *Consumption Tax Trends 2018*, (OECD Publishing 2018), S. Clossen, *A VAT primer for lawyers, economists, and accountants*, 124 *Tax Notes* 7 (2009).

³ R. Boadway, M. Marchand and P. Pestieau, *Towards a Theory of the Direct-Indirect Tax Mix*, 55 *Journal of Public Economics* 1, 71-88 (1994).

(inputs) against the VAT charged on their sales (outputs). This collection process ensures that: (i) buyers of intermediate goods have opposing interests to the sellers, thus reducing the scope for evasion;⁴ and (ii) the risk of evasion is spread across the different elements of the production chain.⁵ The characteristics of VAT ensure therefore that it falls, by nature, into the framework of what is designated as situational crime prevention: designing the tax in a manner that, in itself, designs out and deters fraud from occurring.⁶

However, whilst the incentive for traders to ensure that suppliers provide them with credit-allowing invoices provides some guarantee that VAT is, to some extent, self-enforceable,⁷ it is also true that this self-enforceability can prove somewhat illusory in practice.⁸ Whilst VAT fraud is difficult to measure – methods to estimate levels of fraud are rarely made public, vary widely, and are often unreliable –⁹ there is little doubt over its significance. With large informal sectors,¹⁰ often coupled with weak tax administration and low political support, multiple African countries, and particularly sub-Saharan African countries, have traditionally suffered from a significant VAT fraud problem.¹¹ Yet, somewhat paradoxically, countries with a larger informal sector, as is often the case in African settings, are extremely dependent on revenue arising from indirect tax.¹² Combatting VAT fraud is therefore crucial, not solely from a revenue gathering perspective, but also to: ensure a level playing field amongst economic operators; increase tax morale; and, limit opportunities for the financing of organised crime.¹³ There is also evidence that improvements in tax capacity accelerates state capacity building processes; once countries cross a certain tax-to-GDP threshold, real Gross Domestic Product (GDP) *per capita* increases sharply and in a more sustained manner.¹⁴ It is against this background that, in the last few years, the number of legal or administrative measures, directed towards combating VAT fraud, have significantly increased in various African countries. Yet,

⁴ A. Sandmo, *The Theory of Tax Evasion: A Retrospective View*, National Tax Journal LVIII(4), 643-663, (2005), at 654.

⁵ On the advantages of VAT vs RST, see recently R. de la Feria, *The New VAT General Reverse-Charge Mechanism*, 28 EC Tax Review 4 (2019).

⁶ P. Alldridge, *Criminal Justice and Taxation* (Oxford University Press, 2017), at 34. See also D. Middleton and M. Levi, *Let Sleeping Lawyers Lie: Organised Crime, Lawyers and the Regulation of Legal Services*, 55 British Journal of Criminology 4, 647-668 (2015).

⁷ As recently confirmed by D. Pomeranz, *No Taxation Without Information: Deterrence and Self-Enforcement in the Value Added Tax*, 105 American Economic Review 8, 2539-2569 (2015). On the self-enforceability of VAT, see also M. Waseem, *Information, Asymmetric Incentives, or Withholding? Understanding the Self-Enforcement of Value-Added Tax*, Oxford University Centre for Business Taxation Working Papers WP 18/08 (2018).

⁸ M. Keen and S. Smith, *VAT Fraud and Evasion: What Do We Know and What Can Be Done?*, National Tax Journal LIX(4), 861-887 (2006).

⁹ IMF, *Current Challenges in Revenue Mobilization: Improving Tax Compliance*, IMF Staff Paper, (April 2015), at 10. There is, however, a growing literature on new measurement approaches, see N. Artavanis et al, *Measuring Income Tax Evasion Using Bank Credit: Evidence from Greece*, 131 Quarterly Journal of Economics 2, 739-798 (2016); and H.-G. Petersen et al, *Shadow Economy, Tax Evasion, and Transfer Fraud – Definition, Measurement, and Data Problems*, 24 International Economic Journal 4, 421–441 (2010).

¹⁰ On the prevalence of informality in developing countries, see J.J. Lopez, *A Quantitative Theory of Tax Evasion*, 53 Journal of Macroeconomics, 107-123 (2017).

¹¹ R. Bird and P.-P. Gendron, *The VAT in Developing and Transitional Countries* (Cambridge University Press 2007) who comments on VAT evasion, the size of the underground economy and corruption are closely linked.

¹² J. Alm, J. Martinez-Vazquez and F. Schneider, *Sizing' the problem of the hard-to-tax*, 268 Contributions to Economic Analysis, 11-75 (2004).

¹³ For a detailed analysis of the costs of fraud, see R. de la Feria, *Tax Fraud and the Rule of Law*, Oxford Centre for Business Taxation Working Papers WP18/02 (2018).

¹⁴ V. Gaspar et al, *Tax Capacity and Growth: Is there a Tipping Point?*, IMF Working Paper WP/16/234 (2016); and V. Gaspar et al, *Political Institutions, State Building, and Tax Capacity: Crossing the Tipping Point*, IMF Working Paper WP/16/233 (2016).

it is argued that *ad hoc* measures, of either legal or administrative nature, are unlikely to yield significant results. Rather, to effectively combat VAT fraud a holistic approach must be adopted; one that recognises the interdependence between tax policy and tax administration, what we have designated here as *tax policy-administration symbiosis*.

The paper is divided into four further sections. Following this Introduction, Section Two presents some general considerations on VAT fraud, including the presentation of a broad typology of VAT fraud. In Section Three the role of VAT and its main characteristics in African countries are discussed, with a specific focusing on what is designated as VAT policy and enforcement gaps. In Section Four attention moves to anti-fraud policy, discussing first some of new trends in combating VAT fraud and then various power enhancing and administrative measures, as well as legal design features that have been adopted in African countries. Section Five concludes with considerations regarding the need for a comprehensive administrative and legal design approach; one that recognises the wider dynamics of the tax policy-administration symbiosis.

II. General Considerations on VAT Fraud

Despite having characteristics that are designed to minimise the potential for the occurrence of fraud, VAT –just like any other type of tax– is vulnerable to fraud. First, there is some evidence that, particularly in developing countries, “bad production chains” can form; traders are non-compliant and give preference to suppliers that are also non-compliant, so as to minimise the amount of input tax paid, which may not be deductible.¹⁵ Second, and more importantly perhaps, even where bad chains do not form, self-enforceability does not cover all aspects of the production chain. This is because, the incentive to request an invoice is only present where the acquirer is a business registered for VAT purposes, but not where it is a final consumer or a non-registered business, as those consumers are not entitled to deduct input VAT. Additionally, even for registered businesses, who have the incentive to request the invoice, the incentive does not extend to ensuring that VAT has actually been paid, since the invoice is sufficient to prove entitlement to input tax refund. It is precisely at these two moments, when the elements of self-enforceability are absent, that fraud tends to occur.¹⁶

Generally, fraud can be defined as an “intentional perversion of truth for the purpose of inducing another in reliance upon it to part with some valuable thing belonging to him or to surrender a legal right.”¹⁷ Insofar as VAT is concerned, fraud can take various forms, and therefore providing an exhaustive, and time-proof, typology, is almost impossible. There have, however, been a number of attempts. Some have focussed on the distinction between

¹⁵ Empirical evidence of this phenomenon has been found in Brazil, for example, see A. de Paula and J.A. Scheinkman, *Value-Added Taxes, Chain Effects and Informality*, 2 *American Economic Journal: Macroeconomics* 4,195-221 (2010). See also B. Roussel, *Les méthodes non usuelles de lutte contre la fraude à la TVA* in: *La Fraude à la TVA* (C. Herbain (ed.), Larcier, 2017).

¹⁶ The first moment, namely the sale to final consumers, is also identified in Pomeranz supra n. 7 and in Sandmo supra n. 4, but interestingly neither identify the second moment, namely the remittance of collected tax.

¹⁷ P. Gottschalk, *Categories of financial crime*, 17 *Journal of Financial Crime* 4, 441 – 458 (2010).

those types of fraud that are common to all taxes, and those that are specific to VAT (or other consumption taxes),¹⁸ whilst others have concentrated on the differences between the types of perpetrators,¹⁹ and others have further concentrated on the chronology of types, and their changes over time.²⁰ Given the constant mutations in behavioural patterns, providing a definitive typology of VAT is, by its nature, difficult. However, it is argued that the main distinction, which applies to tax fraud more generally, is that between *evasion* and *organised fraud*. Although this distinction does connect with the type of perpetrator, its primary focus is the means used to obtain an unlawful tax advantage. Evasion results from, what is commonly designated as, informality, and it can be defined as the deliberate omission, concealment or misrepresentation of information to reduce VAT liability. Organised fraud, on the other hand, involves coordinated and systematic actions, with varying levels of sophistication and organisation towards obtaining an unlawful extra VAT financial advantage, beyond the mere reduction of liability.²¹

Both evasion and organised fraud can be further subdivided into various sub-types, as set out in Table 1. It should be noted that these types/sub-types, are indicative rather than rigidly distinct: there are reports of hybrid fraud, which combines evasion (under-reporting of sales) with organised fraud (bogus traders / invoices).²²

Table 1: Typology of VAT Fraud

Evasion	Under-Reported Sales	Trader may report only a proportion of sales, falsifying records and accounts to match, or may make some sales “off the books”, by not issuing invoices.
	Failure to Register	Small businesses operating close to the level of turnover at which registration becomes compulsory.
	Misclassification of Commodities	When different rates apply, traders may reduce their liability by exaggerating the proportion of sales in the lower-taxes categories.
	Claim for Non-Refundable Input VAT	Type 1: When traders supply variety of outputs, some subject to VAT and others exempt, there is incentive to allocate inputs to production of taxed items. Type 2: Items bought for private consumption may be misrepresented as businesses inputs, allowing VAT input recovery.
	Bogus Traders	Companies may be set up solely to generate invoices that allow recovery of VAT – “invoice mills” that exploit the

¹⁸ Keen and Smith, *supra* n. 8.

¹⁹ This is the case of HMRC, which divide fraud into three types: that perpetrated by registered businesses who conceal or omit information (evasion); that carried out by non-registered individuals (hidden economy); and that carried out by criminal gangs (criminal attacks), see UK National Audit Office, *Tackling Tax Fraud: How HMRC responds to tax evasion, the hidden economy, and criminal attacks*, HC 610, Session 2015-2016, (17 Dec. 2015).

²⁰ M. Lamensch, *Fraude TVA et Commerce Digital*, in: Herbain (ed.), *supra* n. 15, 127-145.

²¹ On this distinction, see De la Feria, *supra* n. 13.

²² K.V. Pashev, *Countering cross-border VAT fraud: the Bulgarian experience* 14 *Journal of Financial Crime* 4, 490-501 (2007).

Organised Fraud		practical impossibility of cross-checking every invoice against evidence that earlier tax has been paid.
	Tax Collected But Not Remitted	Possible through false accounting, by engineering bankruptcy before tax is paid, but crucially also, through missing trader fraud.

Under-reported sales happen where a trader reports only a proportion of sales, falsifying records/accounts, or keeping sales off-the-books by not issuing invoices. With modern accounting software programmes, this type of evasion has evolved from destruction or falsification of accounting documents to much more complex systems that are harder to track. In cases where software –automated sales suppression systems, colloquially referred to as zappers– is connected to a cash register system, these programmes are able to change the entire chain, adjust stock records and recorded employees’ work time. Some programmes are even able to alter accounting entrances for official purposes, whilst keeping accurate buyers’ invoices. Recent versions of these software programmes operate on the basis of a foreign (or extra-jurisdictional) zapper that is provided to users over the internet. These alter domestic records from a distance with minimum risk for both the programme and the developer.²³ The growth of the digital economy, and in particular online sales, has further increased the risks of under-reporting, as it is difficult for tax administrations to know when and where a sale has been made.²⁴ Like the failure to register, this type of evasion is traditionally more common in firms primarily engaging in business to consumers (B2C) sales.

Failure to register occurs most often, albeit not exclusively, when small businesses have annual turnovers just above the registration threshold. This type of evasion is most common where businesses sell to final consumers (B2C), since they do not have an incentive to request invoices. It is also common in labour-intensive areas with little or no input VAT (such as hairdressing, plumbing or electric repairs); since non-registered traders are not able to deduct input VAT.²⁵ Evidence of this type of evasion is demonstrated by the strong bunching up of firms just below the VAT threshold, even if other explanations such as business splitting may also play a role, and has led to policy calls for a decrease in VAT thresholds, so as to decrease the incentive –and the plausibility– of declaring annual turnovers below the threshold.²⁶

Evasion by *misclassification* of sales occurs where traders reduce their liability by exaggerating the proportion of sales in products subject to reduced rates of VAT. This type of fraud is most likely where reduced rates apply,

²³ For a comprehensive explanation of the fascinating world of zappers, see R.T. Ainsworth, *Zappers – Retail VAT Fraud*, 21 International VAT Monitor 3, 175-182 (2010). See also R.T. Ainsworth, *California Zappers: A proposal for California’s Commission on the 21st Century Economy*, Boston University School of Law Working Paper 09-01, (2009).

²⁴ IMF, *supra* n. 9, at 30. See also S.P. Van Zyl, *The Collection of Value Added Tax on Cross-Border Digital Trade – Part 1: Registration of Foreign Vendors*, 47 Comparative and International Law Journal of Southern Africa 2, 154-186 (2014).

²⁵ B. Lockwood and L. Liu, *VAT Notches, Voluntary Registration, and Bunching: Theory and UK Evidence*, Oxford University Centre for Business Taxation Working Papers, WP 16/10 (2016).

²⁶ For a detailed analysis of the threshold debate, see Y. Zu, *VAT/GST Thresholds and Small Businesses: Where to Draw the Line?*, 66 Canadian Tax Journal 2, 309-347 (2018).

since these grant the right to deduct VAT whilst exemptions do not, which is the case in most countries around the world, with the notable exclusion of New Zealand.²⁷

Evasion through *undue refund claims* for VAT may occur in one of two ways. The first involves a partially-exempt trader, supplying both taxable and exempt outputs; in this case there is an incentive to allocate inputs to the taxable portion of outputs so as to claim refunds. The second way, which is particularly common, consists of misrepresentation of items, such as a home computer or a car, bought for private consumption, as business inputs, allowing for VAT input recovery.

Bogus traders are companies that may be set up solely for the purpose of selling invoices that allow recovery of VAT, or “invoice mills” for short, or more recently VAT exemption certificates; bogus invoices, or certificates, can also be sold by otherwise legitimate businesses. This fraud exploits the practical impossibility for tax administrations of cross-checking whether every transaction evidenced by the invoice did actually occur. In it, the underlying sale of goods or services never took place, and the actual sale is that of the invoice giving the right to deduct VAT. The fraud is therefore exclusive to business-to-business (B2B) transactions, and requires collusion between seller and purchaser, as well as a significant level of organisation.

The final type of fraud is that which results from *VAT collected but not remitted* to the Government. Whilst there are various possible methods to commit this type of fraud –such as false accounting, engineering bankruptcy after collecting the tax but before it is remitted, and VAT number hijacking– the most important is undoubtedly the so-called carousel fraud, or missing-trader fraud. This fraud exploits two key features of the VAT system: the time gap between the collection of the tax and its remittance; and the destination principle, which requires all exports to be VAT-free, with the tax collected solely on imports. In its simplest form, a trader –the missing trader– collects VAT paid to him by a supplier without accounting or remitting to the tax authorities, disappearing soon after, and before the authorities realise what has occurred. There are numerous variations to this basic model: the same goods may move around different chains continuously, with all the traders in the chain, or its employees, involved, or at least aware that the fraud is occurring (carousel fraud); or different goods are sold by fraudsters to unsuspecting third parties, inserting themselves into legitimate production chains (missing trader fraud). A more recent version of the missing trader fraud is reportedly the insolvent trader, in which instead of a missing trader, the scheme includes an existing firm, which is stripped of any assets before the tax authorities reach it. Whilst these fraud schemes have traditionally been a great concern within the European Union, similar schemes have now developed in other countries, taking advantage of VAT temporary exemption rules on imports.²⁸

This typology of fraud itself is not only indicative of the tax policy-administration symbiosis, but equally of how this symbiosis impacts upon the VAT fraud phenomenon. Whilst most of these types of fraud are of an administrative nature, and would likely still occur regardless of the basic legal design features of the VAT in question, some types

²⁷ See James, *supra* n. 1, on the concept of “real VAT”, and their core characteristics.

²⁸ F. Borselli, Pragmatic Policies to Tackle VAT Fraud in the European Union, 19 *International VAT Monitor* 5, 333-342 (2008).

of fraud are only possible in the presence of specific legal features, namely exclusions from the tax base.²⁹ This is the case in particular, with *misclassification of sales*, and some types of *claim for non-refundable input VAT*; as regards other types, such as *failure to register*, whilst they are still possible regardless of specific legal features, their prevalence is heavily dependent on them.

III. VAT Fraud in Africa

Of the existing 54 countries in Africa, 46 already have a VAT, and three others are in the process of implementing one. The earliest VAT system implemented in Africa was by the Ivory Coast in 1960, followed shortly thereafter in 1962 by Madagascar; four more countries implemented VAT in the 1980s. The 1990s saw 20 countries adopting a VAT, and then 20 more after 1999. Revenue reliance on the tax has also increased, with 17 African countries increasing their original VAT rate since its implementation, whereas only 5 countries reduced them. Several factors have contributed to this outstanding spread of, and reliance upon, this consumption tax across African settings. Whilst generally, little is known about why some countries have adopted VATs, the conventional explanation is that this is due to the merits of a well-designed VAT, such as its efficiency, neutrality, and imperviousness to fraud.³⁰ It has been contested that this conventional explanation fails to acknowledge that real VATs are often not well-designed, and that the rise of these real VATs are better explained by political processes, namely the role of the transnational tax policy community, the impact of local institutions, and the constraints of history.³¹

These two different explanations are not, however, mutually exclusive: it is certainly true that real VATs are often not well-designed, and that this often results from significant constraints that arise from political processes; yet, it is also true that even when VATs are not well-designed, some of its merits, in particular, its efficiency –high revenue collecting potential, with limited administrative costs– is still sufficient to persuade countries of the advantages of implementing this tax. This is clearly demonstrated by how significant VAT is, from a revenue perspective, for African countries, as demonstrated in Table 2. Whilst data are unavailable for all African countries with a VAT, as regards those countries for which data is available, VAT accounts for 25-35% of total revenue in most cases, and in a few it can account for as much as 40% of total revenue.³² Many of these countries expressly invoked economic pressures, and the need to gather additional revenue, as the main reason for implementing a VAT; the data contained in Table 2 legitimises their choice.

Table 2: Tax Revenues in African Countries 2016

Country	VAT % of total tax revenue	Country	VAT % of total tax revenue
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²⁹ Traditional views that broad VAT bases may increase informality are now largely outdated, see J. Piggott and J. Whalley, *VAT Base Broadening, Self Supply, and the Informal Sector*, 91 *American Economic Review* 4, 1084-1094 (2001).

³⁰ James, *supra* n. 1. See also M. Keen, *What Do (and Don't) We Know about the Value Added Tax? A Review of Richard M. Bird and Pierre-Pascal Gendron's The VAT in Developing and Transitional Countries*, 47 *Journal of Economic Literature* 1, 159-170 (2009).

³¹ James, *supra* n. 1. See also R. Eccleston, *Taxing Reforms* (Edward Elgar, 2007).

³² African Union, ATAF and OECD, *Revenue Statistics in Africa 2018* (OECD Publishing, 2018).

<i>Botswana</i>	27%	<i>Mauritius</i>	35%
<i>Burkina Faso</i>	36%	<i>Morocco</i>	28%
<i>Cameroon</i>	34%	<i>Niger</i>	32%
<i>Cape Verde</i>	35%	<i>Rwanda</i>	30%
<i>Congo (DRC)</i>	33%	<i>Senegal</i>	34%
<i>Congo (Republic)</i>	30%	<i>South Africa</i>	24%
<i>Egypt</i>	18%	<i>Swaziland</i>	27%
<i>Ghana</i>	29%	<i>Togo</i>	41%
<i>Ivory Coast</i>	19%	<i>Tunisia</i>	19%
<i>Kenya</i>	24%	<i>Uganda</i>	32%
<i>Mali</i>	29%		

It is also important to acknowledge the role that regional integration projects, namely the West African Economic and Monetary Union (WAEMU), the Central African Economic and Monetary Community (CEMAC), and the Southern African Development Community (SADC), have played, both in the decision to introduce the tax, and also on some of its legal design features.³³ The WAEMU countries were some of the first to implement VAT in Africa, followed by the CEMAC countries. In both communities, lack of harmonization became problematic, especially regarding cross-border trade, and so as to simplify cross-border trade and reduce waiting times at border posts,³⁴ the WAEMU countries amended their original VAT rates so as to adopt a common 18% rate – except for Niger, which levies 19%. Similarly, the East African Community (EAC) countries implemented a uniform VAT rate of 18%, with only Kenya applying a VAT rate of 16%. Despite the legal design differences, domestic consumption taxation in the WAEMU and CEMAC countries is now in line with international practices, with the various domestic taxes grouped into only two main categories, namely VAT and excise duties, both subject to moderate rates.³⁵

The SADC, one of the most important economic integration groups in the African continent, with 15 member countries, also includes a memorandum calling for tax coordination and harmonization between these countries as regards indirect taxation.³⁶ On this basis, it has also achieved some level of VAT harmonization on cross-border trade, not least by introducing a harmonized form, for the declaration of cross-border supplies of goods, and which has to be submitted electronically before the import or export takes place. Under the SADC umbrella, further bilateral agreements have also been signed, such as the one-stop-shop agreement between the South African Revenue Service (SARS) and Lesotho Revenue Authority, whereby the importer does not need to pay import VAT, and instead, the purchaser just submits the relevant documentation and the VAT is settled between the revenue

³³ R. Krever, *Designing and Drafting VAT Laws for Africa*, in: *VAT in Africa* (R. Krever (ed.), Pretoria University Law Press 2008), at 9.

³⁴ P. Letete, *Between tax competition and tax harmonisation: Co-ordination of value added taxes in SADC member states*, 16 *Law Democracy and Development*, 119-138 (2012).

³⁵ L. Doe, *Harmonization of Domestic Consumption Taxes in Central and Western African Countries*, IMF Working Paper WP/06/8 (2006).

³⁶ SADC, *Guidelines for Co-Operation in Value Added Taxes in the SADC Region*, (2016). See also P. Letete, *supra* n. 34.

authorities.³⁷ Similarly, Swaziland has also entered into an agreement (Sekulula VAT Easy) with South Africa, so as to improve the VAT refund scheme.³⁸

VAT Policy Gap in African Countries

These regional integration projects have therefore had a significant impact on the specific legal design elements of their member countries' VATs; from minimum standard rates to cross-border arrangements. Yet, despite the commitment presented to harmonisation in light of its significant advantages for cross-border trade, levels of harmonisation are still relatively low. Differences remain regarding VAT refund rules,³⁹ and clear place of supply of service rules are also lacking, creating uncertainty as to which country should levy the VAT.⁴⁰ More importantly, from a VAT fraud perspective, significant differences still remain as regards the VAT base, with countries applying various reduced rates, including zero rates, as well as exemptions, to different products. Table 3 (below) provides a summary of VAT systems in Africa, indicating the date of introduction of the VAT system, the rate at which VAT was originally introduced, the current standard VAT rate and the reduced/increased VAT rates where applicable.⁴¹

Table 3: VAT rates in African countries

<i>Country</i>	<i>Date of introduction</i>	<i>Rate at Introduction</i>	<i>Standard Rate</i>	<i>Increased/ Reduced Rate (other than 0)</i>
<i>Algeria</i>	1992	13	19	7
<i>Angola</i>	VAT to be introduced in July 2019, with a single rate of 14% ⁴²			
<i>Benin</i>	1991	18	18	-
<i>Botswana</i>	2002	10	12	-
<i>Burkina Faso</i>	1993	15	18	-
<i>Burundi</i>	2009	-	18	10
<i>Cameroon</i>	1999	18.7	19.25	-
<i>Cape Verde</i>	2004	15	15	-
<i>Central African Republic</i>	2001	18	19	-
<i>Chad</i>	2000	18	18	-
<i>Comoros</i>	No VAT. Consumption tax levied on all imported goods and on production activities and commercial and non-commercial services.			
<i>Congo (DRC)</i>	2012	-	16	-
<i>Congo (Republic)</i>	1997	18	18	5
<i>Djibouti</i>	2009	-	10	-

³⁷ A. Jitsing and M. Stern, *VAT Practices Within SACU and Possibilities for Harmonisation*, World Bank Regional Integration Project 7 (2008).

³⁸ IMF, *Kingdom of Swaziland*, IMF Country Report No. 15/353 (2015).

³⁹ L. Doe, *supra* n. 35. See also G. Harrison and R. Krelove, *VAT Refunds: A Review of Country Experience* IMF Working Paper WP/05/218 (2005).

⁴⁰ H.G. Peterson, *Tax Systems and Tax Harmonisation in the East African Community (EAC)*, Finanzwissenschaftliche Diskussionsbeiträge 60 (2009).

⁴¹ See Bird, and Gendron, *supra* n. 11; OECD, *supra* n. 2; Crowe Horwath, *Africa VAT/GST Guide 2016*, (2016); EY, *2018 Worldwide VAT, GST and Sales Tax Guide* (2018); PwC, *Value-added tax (VAT) rates*, (2016-2018).

⁴² R. Asquith, *Angola VAT implementation*, Avalara VATLive Blog, (19 Jan. 2019).

Egypt	1991 2015	10	10 14	1.2, 45 5
Equatorial Guinea	2005	15	15	6
Eritrea	No VAT. Sales tax is levied.			
Ethiopia	2003	15	15	-
Gabon	1995	18	18	5, 10
Gambia	2013	-	15	-
Ghana	1998 2013 (new)	10	15 15	2.5, 5, 3 2.5, 3, 17.5
Guinea	1996	18	18	-
Guinea-Bissau	2001	-	15	10, 20
Ivory Coast	1960	8	18	9
Kenya	1990	17	16	-
Lesotho	2003	14	14	5
Liberia	No VAT, but general goods and services tax is levied. Ongoing discussions over possible introduction of VAT in 2019. ⁴³			
Libya	No VAT.			
Madagascar	1962	-	20	8
Malawi	2002	35	16.5	-
Mali	1991	17	18	5
Mauritania	1995	14	16	18
Mauritius	1998	10	15	-
Morocco	1986	19	20	7, 10, 14
Mozambique	1999	17	17	-
Namibia	2000	15	15	-
Niger	1986	12	19	5
Nigeria	1994	5	5	-
Rwanda	2001	15	18	-
Sao Tome and Principe	No VAT or general sales tax, but some sectorial consumption taxes are levied. VAT due to be introduced in 2019. ⁴⁴			
Senegal	1980	20	18	10
Seychelles	2012	15	15	-
Sierra Leone	2009	-	15	-
Somalia	Law not fully operational due to civil unrest			
South Africa	1991	10	15	-
South Sudan	No VAT, but general sales tax is levied.			
Sudan	2000	10	17	-
Swaziland	2012	14	14	-
Tanzania	1998	20	18	-
Togo	1995	18	18	-

⁴³ R. Asquith, Liberia to introduce VAT in 2019, *Avalara VATLive Blog*, (9 June 2018).

⁴⁴ IMF, *Democratic Republic of São Tomé and Príncipe*, IMF Country Report No. 18/251 (2018).

Tunisia	1988	17	18	12, 6
Uganda	1996	17	18	-
Zambia	1995	20	16	-
Zimbabwe	2004	15	15	-

As Table 3 demonstrates, of 29 African countries, just over 60% of all those with a VAT, apply a single (positive, non-zero) rate, with the remainder applying multiple rates systems.⁴⁵ Interesting, some African countries moved from an initial multiple-rate system, to a single rate one: both Benin and Senegal reconsidered their VAT systems in 1991, scrapping their multiple-rate systems, and moving to a single non-zero VAT rate. Kenya also replaced its VAT system in 2013, broadening its VAT base and making its agricultural inputs exempt, when they had previously been zero-rated.⁴⁶ This prevalence of single rate VAT rate systems in African countries does not, however, necessarily result in a broad VAT base, as several apply zero-rates of VAT,⁴⁷ and most apply a significant number of exemptions.⁴⁸

Indeed, the difference between the hypothetical VAT base (all consumption), and the real VAT base (fully-taxed consumption), often designated as the VAT policy gap,⁴⁹ is evident across African countries, as demonstrated by the c-efficiency ratio measurement. The c-efficiency ratio measurement is often used to determine how well a VAT system performs: it gives the ratio between the VAT revenue collected, to the amount that could have been collected on total consumption (GDP final consumption) at the standard VAT rate, should the law be perfectly enforced;⁵⁰ a ratio of 100% means that the VAT collection is optimal. Low c-efficiency can arise, therefore, from either poor legal design (VAT policy gap), poor implementation (VAT compliance gap), or both.⁵¹ Table 4 below summarizes the c-efficiency ratios for African countries.

Table 4: C-efficiency ratios in African countries⁵²

Country	C-efficiency	Country	C-efficiency	Country	C-efficiency
Algeria	51%	Ghana	39%	Niger	11%
Benin	45%	Guinea	25%	Rwanda	27%
Botswana	61%	Ivory Coast	11%	Senegal	55%
Burkina Faso	28%	Kenya	39%	Seychelles	87%
Cameroon	30%	Lesotho	48%	South Africa	67%
Cape Verde	65%	Madagascar	15%	Tanzania	31%

⁴⁵ The difference results, largely, from historical factors, see Kreyer (ed.), supra n. 33.

⁴⁶ S. Cnossen, *Mobilizing VAT Revenues in African Countries*, 22 *International Tax and Public Finance* 6, 1077-1108 (2015).

⁴⁷ Such as South Africa, see M. van Oordt, *Zero-Rating versus Cash Transfers under the VAT*, 39 *Fiscal Studies* 3, 489-515 (2018).

⁴⁸ See above on "real VATs", James, supra n. 1.

⁴⁹ Also used to determine the effective VAT rate, which in the presence of exclusions from the tax base, is different from the standard VAT rate, see F. Borselli, S. Chiri and E. Romagnano, *Patterns of Reduced Rates in the European Union*, *International VAT Monitor* 1, 13-21 (2012).

⁵⁰ IMF, supra n. 9.

⁵¹ R. de Mooij and M. Keen, *Fiscal Devaluation and Fiscal Consolidation: The VAT in Troubled Times*, IMF Working Paper WP/12/85 (2012), at 29. See also J. Ueda, *The Evolution of Potential VAT Revenues and C-Efficiency in Advanced Economies*, IMF Working Paper WP/17/158 (2017).

⁵² Cnossen, supra n. 46.

Central African Republic	14%	Malawi	34%	Togo	43%
Chad	14%	Mali	52%	Tunisia	50%
Congo (Rep)	31%	Mauritania	52%	Uganda	20%
Egypt	40%	Mauritius	58%	Zambia	34%
Equatorial Guinea	15%	Morocco	64%	Zimbabwe	64%
Ethiopia	11%	Mozambique	35%		
Gabon	21%	Namibia	56%		

As Table 4 demonstrates, the country with the most efficient VAT system is Seychelles, with a c-efficiency ratio of 87%, followed by South Africa, Cape Verde, Morocco, Zimbabwe and Botswana with efficiency ratios over 60%. The remaining African countries have a c-efficiency ratio below 60%, which indicates low efficiency VATs; but does not provide any clarity regarding whether this low efficiency is due to a VAT policy gap, compliance gap, or both. In Europe, empirical analysis over the last 20 years indicates that, whilst low efficiency levels can be attributed to a combination of both gaps, the policy gap is much larger than the compliance one. The opposite, however, seems to be true as regards developing and emerging economies, i.e. low efficiency levels in those countries is largely attributable to the compliance gap.⁵³

It is argued here, however, that such strict division is impossible. In reality the two gaps are interlinked and the c-efficiency measurement is evidence of the tax policy-enforcement symbiosis. In fact, as discussed above, some types of fraud are only possible in the presence of specific legal features, namely exclusions from the VAT base, so the existence of a policy gap, potentially fuels the compliance gap. It is also worth noting that, not only is the VAT compliance gap a measure of non-compliance –to include negligence, avoidance, etc– rather than just VAT fraud, but equally, that the measurement has been subject to significant criticisms.⁵⁴ Nevertheless, despite the limitations of both the c-efficiency ratio, and the VAT compliance gap, as proxy measurements in identifying the VAT fraud problem –and in the absence of more accurate estimations– they are indicative of the significance of the VAT fraud phenomenon in African countries. Whilst still rare, some country and fraud-specific estimations for VAT fraud in African countries, such as under-reporting of imports in Kenya, Tanzania, and Mozambique, are also available, and confirm the high incidence of this type of fraud in those countries.⁵⁵

VAT Enforcement Gap in African Countries

⁵³ M. Keen, *The Anatomy of the VAT*, 66 National Tax Journal 2, 423-446 (2013), at 439.

⁵⁴ See M. Keen and J. Slemrod, *Optimal Tax Administration*, IMF Working Paper WP/17/8 (2017); N. Gemmel and J. Hasseldine, *Taxpayer's Behavioural Responses and Measures of Tax Compliance 'Gaps': A Critique and a New Measure*, Fiscal Studies 35, 275-296 (2014); and K. Yiallourou, *The Limitations of the VAT Gap Measurement*, 28 EC Tax Review 4 (2019).

⁵⁵ J. Levin and L.M. Widell, *Tax Evasion in Kenya and Tanzania: Evidence from Missing Imports*, Economic Modelling 39, 151-162 (2014); and J. Dunem and C. Arndt, *Estimating Border Tax Evasion in Mozambique*, 45 Journal of Development Studies 6, 471-496 (2009).

The estimated VAT compliance gap for South Africa in the period 2007–2012 fluctuated between 5% and 10%, which is relatively low by international standards,⁵⁶ raising questions over its accuracy, particularly given the well-known high levels of informality in the country. Whilst VAT compliance gap estimates are not available for most other African countries, evidence indicates that sub-Saharan African countries have large informal sectors, over double of those of OECD countries, which would naturally result in high levels of VAT evasion. A study undertaken in 2000, estimates the average informal economy as a percentage of Gross National Product (GNP) in various countries. It found that, whilst the average size of the informal economy in 26 Asian countries was 26%, and 18% in 16 OECD countries, the average for 23 African countries was 42%.⁵⁷ The estimated size of the informal economy, as of 2006, is summarised in Table 5 below.

Similar concerns arise in the context of corruption, broadly defined as the misuse of power for private gain,⁵⁸ with experience in developing countries indicating that “VAT evasion, the size of the underground economy and corruption are closely linked”.⁵⁹ Perceptions of corruption are reportedly high in many African countries: according to Transparency International, which measures the perceptions of corruption as seen by business people and country analysts, of the 180 countries measured in 2017, only 12 of the 54 African countries lie in the top 80 on the “clean” side, and only 6 countries scored above 50 – where 100 is very clean and 0 is highly corrupt.. It is important to note that existence of corruption, and perceptions of corruption, are not necessarily the same.⁶⁰ Cultural differences in countries can play an important role in understanding perceptions of fraud: for example in some African traditions the giving of gifts is a sign of politeness, respect and trust, where in other cultures it might be viewed as a bribe.⁶¹ Yet, it is undeniable that the perception of high levels of corruption in African countries significantly increases the potential for VAT fraud: not solely because they can indeed be indicative of the existence of corruption,⁶² which can facilitate VAT fraud,⁶³ but also because perceptions of corruption, regardless of their accuracy, are known to affect compliance levels. In Nigeria, for example, perceptions of high corruption, coupled with the feeling of not wanting to give money to a corrupt government, are said to contribute to high levels of tax

⁵⁶ IMF, *South Africa: Technical Assistance Report – Revenue Administration Gap Analysis Program – the Value-Added Tax Gap* IMF Country Report No. 15/180 (2015).

⁵⁷ F. Schneider, *Size and Measurement of the Informal Economy in 110 Countries Around the World*, Rapid Response Unit, World Bank, (2002); and F. Schneider, A. Buehn and C.E. Montenegro, *New Estimates for the Shadow Economies all over the World*, 24 *International Economic Journal* 4, 443-461(2010).

⁵⁸ K. Sylla, *Challenges To Democratic Governance in Developing Countries. Defining corruption in the cultural context of Sub-Saharan Africa* (Springer International Publishing 2013).

⁵⁹ Bird, and Gendron, *supra* n. 11. See also M. Ivanyna, A. Moumouras and P. Rangazas *The Culture of Corruption, Tax Evasion, and Economic Growth*, 54 *Economic Enquiry* 1, 520-542 (2016).

⁶⁰ Transparency International, *Corruption perceptions index 2017* (2017).

⁶¹ A. Haynes, *The Struggle Against Corruption – A Comparative Analysis*, 8 *Journal of Financial Crime* 2, 123-135 (2000).

⁶² I. Carr, *Corruption, the Southern African Development Community Anti-corruption Protocol and the Principal—Agent—Client Model*, 5 *International Journal of Law in Context* 2, 147–177 (2009).

⁶³ On the link between corruption and enforcement levels see F. Flatters and W.B. MacLeod, *Administrative corruption and taxation*, 2 *International Tax and Public Finance* 3, 397-417 (1995); A.Q. Khan, A.I. Khwaja and B.A Olken, *Tax Farming Redux: Experimental Evidence on Performance Pay For Tax Collectors*, 131 *Quarterly Journal of Economics* 1, 219-271 (2016); and C.M. Kahn, E.C.D Silva and J.P. Ziliak, ‘*Performance-Based Wages in Tax Collection: The Brazilian Tax Collection Reform and its Effects*’ 111 *Economic Journal* 468, 188–205 (2001).

fraud.⁶⁴ Table 5 provides a corruption index score as well as its ranking out of the 180 countries measured, and the estimated size of the informal economy for each African country.

Table 5: Corruption index and informal economy size in African countries

Country	Corruption Index	Country rank /180	Informal economy
Algeria	33	112	30.9
Angola	119	167	-
Benin	39	85	48.3
Botswana	61	34	32.7
Burkina Faso	42	74	40.6
Burundi	22	157	39.7
Cape Verde	55	48	36.8
Cameroon	25	153	32.2
Central African Republic	23	156	46.9
Chad	20	165	41.9
Comoros	27	158	-
Congo	21	161	45.9
Congo, Dem. Rep.	21	161	-
Côte d'Ivoire	36	103	43.4
Djibouti	30	122	-
Egypt	32	117	34.1
Equatorial Guinea	17	171	-
Eritrea	20	165	-
Ethiopia	35	107	37.6
Gabon	32	117	-
Gambia	30	130	-
Ghana	40	81	42
Guinea	27	148	41
Guinea-Bissau	17	171	-
Kenya	28	143	33.8
Lesotho	42	74	30.2
Liberia	31	122	-
Libya	17	171	-
Madagascar	24	155	39.6
Malawi	31	122	41.9
Mali	31	122	41.6
Mauritania	28	143	34.5
Mauritius	50	54	22.8
Morocco	40	81	34.8
Mozambique	25	153	39.6
Namibia	51	53	28.8
Niger	33	112	39.9
Nigeria	27	148	-
Rwanda	55	48	39.6
Sao Tome and Principe	46	64	-
Senegal	45	66	-
Seychelles	60	36	-
Sierra Leone	30	130	-
Somalia	9	180	-
South Africa	43	71	27.4
South Sudan	12	179	-

⁶⁴ A.E. Ezeoha and E. Ogamba, *Corporate Tax Shield or Fraud? Insight from Nigeria*, 52 International Journal of Law and Management 1, 5-20 (2010).

Sudan	16	175	-
Swaziland	39	85	-
Tanzania	36	103	54.8
Togo	32	117	35.4
Tunisia	42	74	36.4
Uganda	26	151	42.9
Zambia	37	96	49.3
Zimbabwe	22	157	-

Apart from levels of informality and corruption, many other economic and social factors, and personal and social norms, are known to influence voluntary tax compliance. Some of these resonate particularly in an African context. This is the case with perceptions of tax equity impact, which we know has a significant impact on compliance levels.⁶⁵ In particular, tax inequity undermines what has been designated as tax moral thinking: taxpayers' self-regulatory mechanism that cognitively frames paying taxes as doing "the right thing".⁶⁶ Where there is perceived inequity, taxpayers are less likely to think morally, and can respond to taxation through defiance.⁶⁷ Tax complexity, and resulting uncertainty and higher compliance costs, have also been found to have a significant impact on compliance levels,⁶⁸ and a recent study conducted in Tanzania, indicates tax non-compliance significantly increased as tax compliance costs increased.⁶⁹ Political affiliation and perceptions as regards the effectiveness of public services are also known to affect tax compliance: more liberal supporters are less compliant than social democratic supporters;⁷⁰ more efficient public services give rise to increased negative views of tax evasion;⁷¹ and a positive outlook on government lowers tax evasion.⁷² Thus, in countries which are perceived to have lower standards of public services, or where there is a negative outlook on the government, tax compliance is likely to be lower.

Finally, tax administration capacity is also known to significantly affect compliance levels. Tax enforcement is costly, and the more organised the fraud is, the more costly enforcement is likely to be. Whilst it is common for tax administrations to assess the relative effectiveness of various measures in improving compliance,⁷³ where

⁶⁵ For a summary of research in this area see J. Slemrod, *Cheating Ourselves: The Economics of Tax Evasion*, 21 *Journal of Economic Perspectives* 1, 25-48 (2007), at 38 et seq; see also D. Onu and L. Oats, *The Role of Social Norms in Tax Compliance: Theoretical Overview and Practical Implications*, 1 *Journal of Tax Administration* 1 (2015).

⁶⁶ V. Braithwaite, *Defiance in Taxation and Governance – Resisting and Dismissing Authority in a Democracy* (Edward Elgar, 2009), at 148-158.

⁶⁷ *Ibid*, at 200. See also V. Braithwaite, *Tax Evasion in: Handbook on Crime and Public Policy* (M. Tonry, (ed.), Oxford University Press, 2009), 381-405, at 384; and L. Casaburi and U. Troiano, *Ghost-House Busters: The Electoral Response to a Large Anti-Evasion Program*, 131 *Quarterly Journal of Economics* 1, 273-314 (2016), at 36.

⁶⁸ See generally IMF and OECD, *Tax Uncertainty*, IMF/OECD Report for the G20 Finance Ministers, (March 2017).

⁶⁹ D.N. Mahangila, *The Impact of Tax Compliance Costs On Tax Compliance Behaviour*, 3 *Journal of Tax Administration* 1 (2017). See also on Bangladesh, N. Faridy, R. Copp, B. Freudenberg and T. Sarker, *Complexity, Compliance Costs and Non-Compliance with VAT by Small and Medium Enterprises (SMEs) in Bangladesh: Is there a Relationship?*, *Australian Tax Forum* 29, 1-35 (2014).

⁷⁰ E. Hoffman, E. Hoelzl and E. Kirchler, *Preconditions of Voluntary Tax Compliance: Knowledge and Evaluation of Taxation, Norms, Fairness and Motivation to Cooperate*, 216 *Journal of Psychology* 4, 209-217 (2008).

⁷¹ Casaburi and Troiano, *supra* n. 67.

⁷² J. Cullen, N. Turner and E.L. Washington, *Political Alignment, Attitudes Toward Government And Tax Evasion*, NBER Working Paper No. 24323 (2018).

⁷³ A critical assessment of enforcement choices, and what is designated as selective tax enforcement, see De la Feria, *supra* n. 13.

administrative capacity is limited, there will be a restrictive effect on enforcement choices. For example, recent empirical research indicates that the risk of audit is a strong compliance incentive,⁷⁴ as are in-person visits,⁷⁵ yet both carry significantly more administrative costs, which may not be available to every tax administration.

IV. VAT Anti-Fraud Policy in Africa

The policy to tackle VAT fraud has traditionally been relatively unsophisticated. Despite attracting significant academic attention,⁷⁶ it has relied primarily on penalties, surcharges and other administrative and criminal sanctions. This traditional view stems largely from economics-of-crime theories according to which taxpayers weigh the expected benefits of tax evasion/crime with the uncertain prospect of detection and punishment.⁷⁷ Under this view, audits, penalties, and other negative compliance incentives were not just effective anti-evasion methods, indeed they were the *only* methods.⁷⁸ The last decade, however, has seen a massive shift in this approach, with increased attention being paid to anti-fraud policy. This shift has undoubtedly been due in part to promising developments in behavioural science –from responsive regulation to nudge theories–⁷⁹ as well as the use of new technologies,⁸⁰ to encourage tax compliance, both of which allow a stricter approach to enforcement, at a lower cost than traditional methods.

Whilst there are many significant worldwide developments within this area, they can be broadly divided into negative and positive incentives to tax compliance. In terms of negative incentives, one of the most promising technology-based anti-fraud methods is the digital invoice, first introduced in Brazil. Under the Brazilian model, invoices issued by companies with a turnover above a certain threshold, must be digital in order to be enforceable;

⁷⁴ A. Plumley, *The Determinants of Individual Income Tax Compliance*, Department of the Treasury – Internal Revenue Service Publication 1916, (1996); Pomeranz supra n. 7; and C. Agostini, J.P. Atal and A. Repetto, *Firms Response to Tax Enforcement through Audits*, Oxford University Centre for Business Taxation Working Paper Series WP 18/09 (2018).

⁷⁵ W.C. Boning, J. Guyton, R.H. Hodge and J. Slemrod, *Heard It Through the Grapevine: Direct and Network Effects of a Tax Enforcement Field Experiment*, NBER Working Paper 24305 (2018).

⁷⁶ The initial work on tax compliance dates back to the early 1970s; see landmark work by M.G. Allingham and S. Sandmo, *Income Tax Evasion: A Theoretical Analysis*, 1 *Journal of Public Economics* 3-4, 323-338 (1972).

⁷⁷ J. Alm, G.H. McClelland and W.D. Schulze, *Why do people pay taxes?*, 48 *Journal of Public Economics* 1, 21-38 (1992), at 21-22.

⁷⁸ Allingham and Sandmo, supra n. 76; this deterrence effect of audits and penalties was empirically confirmed by J. Dubin and L. Wilde, *An empirical analysis of federal income tax auditing and compliance*, 41 *National Tax Journal* 1, 61-74 (1988); see also J. Slemrod and S. Yitzhaki, *Tax Avoidance, Evasion and Administration* in: *Handbook of Public Economics*, Volume 3 (A. Auerbach and M. Feldstein (eds.), Elsevier, 2002), 1423-1470.

⁷⁹ For a review of the various experiments done around the world using behavioural science to increase tax compliance, see J. Slemrod, *Tax Compliance and Enforcement: New Research and its Policy Implications*, Ross School of Business Paper 1302 (2016). On the use of responsive regulation in tax, see J. Freedman, *Responsive Regulation, Risk, and the Rules: Applying the Theory to Tax Practice*, 44 *University of British Columbia Law Review*, 627 (2012); and the influential work by I. Ayres and J. Braithwaite, *Responsive Regulation: Transcending the De-Regulation Debate* (Oxford University Press, 1992). On the use of nudges in tax see D. Halpern, *Inside the Nudge Unit – How Small Changes Can Make a Big Difference* (WH Allen, 2015).

⁸⁰ A survey of best practices can be found in OECD, *Technologies for Better Tax Administration – A Practical Guide for Revenue Bodies*, (OECD Publishing, 2016); and OECD, *Technology Tools to Tackle Tax Evasion and Tax Fraud*, (OECD Publishing, 2017). See also R. Bird and E. Zolt, *Technology and Taxation in Developing Countries: From Hand to Mouse* *National Tax Journal* 61, 791-821 (2008); and C. Herbain, *EU policy forum: Fighting VAT Fraud and Enhancing VAT Collection in a Digitalized Environment*, 46 *Intertax* 6/7, 579–583 (2018).

paper invoices are acceptable only as replicas or evidence of prior digital invoices.⁸¹ This model has also the advantage of allowing the electronic matching-up of invoices. The process of matching-up invoices is not new, and indeed has been in place in South Korea since 1976, but extensive administrative and compliance costs raised questions over its overall benefits.⁸² Electronic invoicing proved crucial in overcoming this problem, and in 2010 Israel successfully implemented a new online system, under which all invoice matching would be done electronically at a massive data-warehouse, with reportedly great results.⁸³ Similarly, in the United States (US), the mandatory use of certified tax software by high-risk industry sectors, implemented in 2005, has proved a successful negative incentive to compliance, and is now implemented in various countries, including Portugal and France.⁸⁴

The use of new technologies has given negative incentives to compliance an effectiveness which they had so far lacked.⁸⁵ Regardless, however, it is unsurprising that positive incentives to compliance have also developed in various jurisdictions. Whilst this is a relatively new phenomenon, there are now various examples of this approach. South Korea, for example, has introduced a “cash-receipt” system, which rewards final customers paying by cash, if they insist on a cash receipt that automatically reports sales to the revenue authority. The system has reportedly achieved positive results in terms of reducing unreported cash sales.⁸⁶ Several other Asian countries, most notably China, successfully run a so-called Lottery Ticket Rewards system (referred to as a VAT lottery system), under which receipts are in effect treated as lottery tickets, with a selected one being awarded a prize, in the form of monetary compensation.⁸⁷ The system is similar to that implemented in 2007, in the Brazilian State of Sao Paulo, which rewards all consumers with a 30% rebate on consumption tax paid, provided an electronic receipt is requested from the seller. It also gives a money prize to one selected invoice. The system has reportedly led to an increase of up to 10% in reported sales in the services industry,⁸⁸ and an overall increase in reported revenue, over a period of 4 years, of 21%.⁸⁹ Other technology-based system, such as computer-assisted audit tools and techniques (CAATs), aimed to improve the effectiveness of tax audits, have been implemented by several

⁸¹ For a detailed analysis of how this model works, see R.T. Ainsworth, *Refund Fraud? Real-Time Solution! Digital Security Borrowed from the VAT (Brazil, Quebec & Belgium)*, Boston University School of Law Working Paper 12-15, (March 2012).

⁸² R. Krever, *Combating VAT Fraud: Lessons from Korea*, 3 *British Tax Review*, 329-341 (2014).

⁸³ *Ibid.*

⁸⁴ W. Hellerstein, *Sales Tax Reform in the United States: The Streamlined Sales Tax Project*, 59 *Bulletin for International Fiscal Documentation*, 170 (2005).

⁸⁵ Traditionally econometric studies suggested that they had no long-run impact, see J. Andreoni, B. Erard and J. Feinstein, *Tax Compliance*, 36 *Journal of Economic Literature* 2, 844 (1998).

⁸⁶ R. Krever, *supra n. 82*; and S. Kim, *Federal Income Tax Reform: A VAT and the Cash Receipt System*, 115 *Tax Notes* 8, 751 (2007).

⁸⁷ M. Fabbri and S. Hemels, *Do You Want a Receipt? Combating VAT and RST Evasion with Lottery Tickets*, 41 *Intertax* 8/9, 430-443 (2013).

⁸⁸ E. Mattos, F. Rocha and P. Toporcov, *Programas de incentivos fiscais sao eficazes? Evidencia a partir da avaliacao do impacto do programa nota fiscal paulista sobre a arrecadacao do ICMS*, 67 *Revista Brasileira de Economia* 1 (2013).

⁸⁹ J. Naritomi, *Consumers as Tax Auditors*, Centre for Economic Policy Research (CEPR) Discussion Paper No. DP13276 (2018).

countries, including Australia, Finland, Germany, Indonesia and the US, and have proved to be powerful compliance enhancing measures.⁹⁰

Similarly to others, in African countries increased attention is being paid to VAT anti-fraud policy. Whilst many countries still rely primarily on penalties, surcharges and other administrative and criminal sanctions, there has been a substantial intensification of anti-fraud policy. This intensification has manifested itself primarily through the approval of measures that enhance the power of tax administrations, or administrative measures, many of which relying on the use of new technologies, as well as behavioural science; yet, comparatively less attention is being paid to legal design issues.

Administration Related Measures

The most common approach to combating VAT fraud in African countries remains the levying of penalties,⁹¹ with a view to encouraging voluntary compliance.⁹² In South Africa, a penalty of 10% is charged on any outstanding taxes payable, and interest is charged at the prescribed interest rate;⁹³ Botswana levies a penalty of P5,000 or P10,000, depending on gravity and intent, with 2% per month interest levied on outstanding taxes.⁹⁴ Other criminal sanctions, such as imprisonment, are also applied in several African countries, including Botswana, Gambia, Kenya, Madagascar, Namibia, Rwanda, South Africa and Zimbabwe.⁹⁵

Other traditional administrative anti-fraud measures, namely audits, are also popular. In South Africa, VAT audits show that up to 60% of reporting is inaccurate, with the construction industry being a particular risk, with 70% of audited businesses displaying inaccurate VAT returns.⁹⁶ Measures to speed-up the auditing process by preventing taxpayers from engaging in delaying tactics, whilst enhancing the tax administration the powers to extend it, have also been approved.⁹⁷ In Malawi significant attention is also paid to tax audits, with every taxpayer required to be audited every three years, and an entire administrative division solely dedicated to tax audits and criminal investigations.⁹⁸ In Ghana also, increased emphasis is being given to audits, with a new task force set up in August 2015, with the aim of ensuring that taxpayers are correctly filing their VAT returns, and that non-compliant taxpayers pay their outstanding tax liabilities.⁹⁹ Finally, in Zimbabwe, audits are also given prominence, varying from inspections, compliance audits and desk audits, to comprehensive audits or project audits.¹⁰⁰

⁹⁰ A. Darono & D. Ardianto, *The use of CAATTs in tax audits – lessons from some international practices*, 14 eJournal of Tax Research 2, 506-526 (2016).

⁹¹ EY, supra n. 41.

⁹² Krever (ed.), supra n. 33..

⁹³ ZA: Section 187 of the Tax Administration Act No. 28 of 2011, Section 39 of the VAT Act No. 89 of 1991.

⁹⁴ BW: Section 16 and 22 of the Value Added Tax Act 2000.

⁹⁵ EY, supra n. 41.

⁹⁶ SARS, *Compliance Programme 2012/13 – 2016/17*, (2014).

⁹⁷ N. Napier, *SARS Hits Back: Taxpayers May No Longer Frustrate the Audit Process in the Hope of Prescription*, 27 Tax Technical (2016).

⁹⁸ C. Chiumya, *Counteracting Tax Evasion in Malawi: An Analysis of the Methods and Quest for Improvement*, MPRA Paper 9892 (2006).

⁹⁹ Ghana Ministry of Finance, *Ghana Revenue Authority Inaugurates Special Taskforce*, (August 2015).

¹⁰⁰ Zimbabwe Revenue Authority, *Tax Audits*, 2014.

In addition to these traditional anti-fraud measures, an increasing number of African countries have been introducing less traditional measures to combat VAT fraud. In this regard, the use of new technologies, sometimes designated as electronic fiscal devices,¹⁰¹ such as digital invoicing systems, online filing and payments, and integrated IT systems, have been particularly popular. Rwanda implemented a very advanced technological system, similar to that introduced in Portugal in 2011-2012, whereby the Rwanda Revenue Authority can, close to real time, track and monitor transactions through digital invoicing. National legislation requires all registered VAT vendors to be in possession of a certified electronic billing machine, and a certified invoicing system, through which the Rwanda Revenue Authority can track all transactions carried out in real time.¹⁰² Similarly, Malawi, Kenya, Zimbabwe, Ethiopia and Tanzania, all use electronic fiscal devices, which ensure that all sales transactions are registered, and no editing can be done to the transactions by the vendor.¹⁰³

Online filing and payments have also become particularly popular, as not only do they facilitate compliance, and decrease administration costs, but they also limit the scope for error, and corruption. A survey carried out by the African Tax Administration Forum (ATAF) on 26 African countries,¹⁰⁴ determined that 17 of these allowed their taxpayers to file their returns online, and make payment electronically, with Cameroon, Mauritius, Rwanda, South Africa and Tanzania even allowing these payments to be made via mobile phones;¹⁰⁵ Morocco, Algeria and Tunisia have also introduced electronic filing and payment procedures.¹⁰⁶ Online filing and payments have also been facilitated by improved IT systems: 19 of the African countries surveyed by the ATAF have implemented integrated tax administration systems and tax management systems to improve efficiency and facilitate compliance.¹⁰⁷ Gabon and Mauritius have implemented new VAT IT systems, under which receipts and notices are issued electronically only;¹⁰⁸ and some African countries, including South Africa, have used online filing to impose a matching of sales reporting for income tax and VAT purposes, known as reconciliation, whereby the total turnover and business expenditure declared for income tax purposes, must match the total supplies and inputs tax claims declared in VAT returns.¹⁰⁹ Finally, online filing and the use of new technologies have also facilitated exchange of information, and exchange of information agreements have proliferated throughout Africa.¹¹⁰ South Africa alone has signed 69

¹⁰¹ P. Casey and P. Castro, *Electronic Fiscal Devices (EFDs), An Empirical Study of Their Impact on Taxpayer Compliance and Administrative Efficiency*, IMF Working Paper WP/15/73 (2015).

¹⁰² R.T. Ainsworth and G. Todorov, *Rwanda – Cutting-Edge VAT Compliance*, Boston University School of Law Working Paper 13-46 (2013).

¹⁰³ Casey and Castro, *supra* n. 101s. See also Zimbabwe Revenue Authority, *Invoice Management System (IMS) – An Upgrade on Fiscalisation*, (2014); and Kenya Revenue Authority, *Electronic Tax Register Overview 2011 – 2012*, (2011).

¹⁰⁴ Namely, Angola, Benin, Botswana, Burundi, Cameroon, Chad, Gambia, Ghana, Kenya, Lesotho, Liberia, Malawi, Mauritius, Mozambique, Niger, Nigeria, Rwanda, Senegal, Seychelles, South Africa, Swaziland, Tanzania, Togo, Uganda, Zambia, and Zimbabwe.

¹⁰⁵ ATAF, *African Tax Outlook 2016*, (2016); and ATAF, *African Tax Outlook 2018*, (2018).

¹⁰⁶ J. Bodin and V Koukpaizan, *The Rise of VAT in Africa – Impact and challenges*, 20 International VAT Monitor 3 (2009).

¹⁰⁷ ATAF, *supra* n. 105.

¹⁰⁸ C. Grandcolas, *The Occasional Failure in VAT Implementation: Lessons for the Pacific*, 11 Asian-Pacific Tax Bulletin 1, 6-13 (2005).

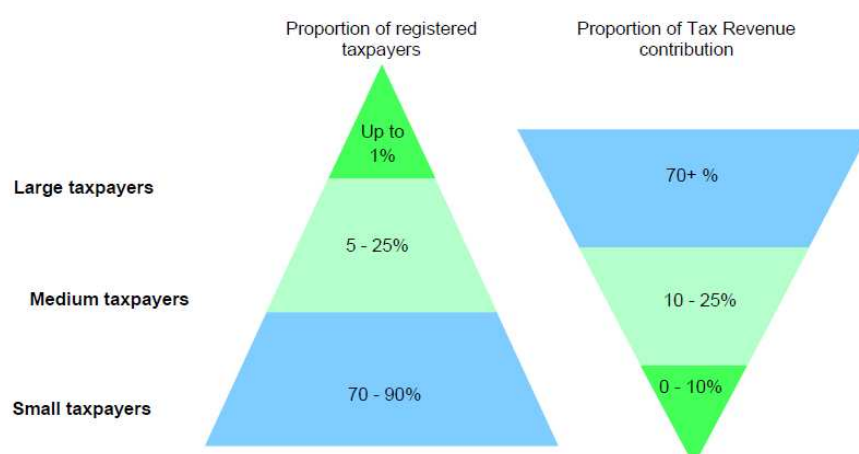
¹⁰⁹ South Africa Revenue Services, *How To Complete the Supplementary Declaration (IT14SD) Form for Companies and Close Corporations*.

¹¹⁰ 36 African countries are now members of the ATAF, whose mission is to enhance administrative efficiency and effectiveness, see mission statement available at: <https://www.ataftax.org/overview> (accessed 10 July 2019).

such agreements with other countries since 2010;¹¹¹ Cameroon's tax authority has systems in place whereby information is shared between them and the customs services;¹¹² And the Mauritius Revenue Authority have agreed with third parties –such as government departments and banks– the disclosure of financial information.¹¹³

In addition to the use of new technologies, an increasing number of African countries has also been introducing administrative measures to combat VAT fraud, which are largely based on behavioural science, from responsive regulation to nudging.¹¹⁴ Risk management tools, for example, have been introduced throughout the continent, with 16 African countries indicating that they have implemented an enterprise-wide risk policy.¹¹⁵ Similarly, we have seen the spread of large taxpayer units. As the Figure 1 below demonstrates, in African countries, as in other countries around the world, most tax revenue is collected from a very small number of taxpayers. According to the African Tax Outlook, 21 of the 26 countries have large taxpayer units.¹¹⁶ Ghana was particularly successful, with revenue increasing by 86% in just two years;¹¹⁷ similarly both Egypt and Cameroon have reported a significant improvement in compliance since creating medium and large taxpayers' offices to assist these taxpayers to file and pay.¹¹⁸ Whilst these numbers refer to all taxes, rather than just VAT, they demonstrate the impact of these administrative measures.

Figure 1: Taxpayer segments: Taxpayer population and revenue contribution characteristics¹¹⁹



Other measures to combat VAT fraud implemented in African countries through the implementation of negative and positive incentives, and largely based on behavioural science, include whistle-blowing, naming and shaming, and use of lotteries. Several African countries have introduced schemes designed to facilitate whistle-blowing,

¹¹¹ B. Schlenter, *The Taxing Business of Money Laundering: South Africa*, 16 *Journal of Money Laundering Control* 2, 126 – 141 (2013).

¹¹² S. Fambon, *Taxation in Developing Countries – Case Study of Cameroon*, WIDER Working Paper Series 002 (2006).

¹¹³ ATAF, supra n. 105.

¹¹⁴ For key references see supra n. 79.

¹¹⁵ OECD, supra n. 2.

¹¹⁶ ATAF, supra n. 105.

¹¹⁷ GTZ Sector Programme Public Finance, *Addressing tax evasion and tax avoidance in developing countries*, (2010).

¹¹⁸ IMF, *Middle East Regional Technical Assistance Center* (IMF, 2009); and IMF, *Cameroon*, IMF Country Report No. 15/331 (2015).

¹¹⁹ D. Kloeden, *Revenue administration reforms in Anglophone Africa since the early 1990s*, IMF Working Paper No. 11/162 (2011).

which is said to support “prosocial behaviour”.¹²⁰ In South Africa, the tax administration has a link on its website where a “suspicious activity” can be reported, which includes VAT fraud relating to the under-reporting of imports, failure to register, and undue VAT refund claims.¹²¹ Similarly, Kenya also encourages people to report tax evasion, fraud and corruption, either in person at the Commissioner General, by mail, telephone, fax or e-mail;¹²² as do Tanzania,¹²³ Uganda,¹²⁴ Ghana,¹²⁵ Lesotho,¹²⁶ and Nigeria.¹²⁷ Some countries have introduced monetary incentives within their whistle-blowing schemes, including Malawi.¹²⁸ Name and shame initiatives, which are known to have an effect on compliance,¹²⁹ are also popular for all taxes, including VAT. South Africa issues a report of “corruption crackdown” which provides a breakdown of those caught on tax fraud.¹³⁰ Similarly, Ghana names and shames taxpayers who do not submit tax returns or avoid timely payment of taxes.¹³¹ Some countries have also adopted the opposite approach to naming and shaming, namely naming and praising: recognizing compliant taxpayers by giving them positive exposure. Thus, in countries like Gambia, Kenya, Rwanda, Tanzania, Uganda and Zimbabwe, they have dedicated days where they recognize taxpayers that filed and paid accurate tax returns, on time.¹³² Finally, lottery schemes have also started appearing in African countries, and in 2014 Mauritius introduced a Lucky Draw Scheme, which encourages taxpayers to request an invoice when purchasing goods; they can then text or e-mail the invoice details to win a money prize.¹³³

Other measures to combat fraud based on behavioural science are those related to the removal of frictions to tax compliance.¹³⁴ In this regard, single registration systems play an important role. Registering for VAT can be a complex process, particularly if made harder in order to prevent bogus traders’ fraud; yet, the creation of such frictions to registrations can have the opposite effect of increasing failure to register fraud.¹³⁵ As such, some African countries, such as South Africa and the Republic of Congo, have sought to remove these frictions by creating a single registration system whereby taxpayers have one single profile, or tax identification number, valid for all

¹²⁰ J.B. Dozier and M.P. Miceli, *Potential Predictors of Whistle-Blowing: A Prosocial Behavior Perspective*, 10 *Academy of Management Review* 4, 823-836 (1985).

¹²¹ SARS, *Report a Suspicious Activity*, (2016).

¹²² Kenya Revenue Authority, *Building Taxpayers Trust Through Facilitation for Enhanced Tax Compliance*, (2016).

¹²³ M. Tambwe, *Tanzania: TRA Sees Progress in Curbing Tax Evasion*, *Tanzania Daily News*, (24 August 2011).

¹²⁴ UG: The Uganda Gazette No. 27, *The Whistleblowers Protection Act 2010*

¹²⁵ Ghana Revenue Authority, *Report Corruption and Misconduct*, (2016).

¹²⁶ Lesotho Revenue Authority, *Lesotho Revenue Authority Whistle Blowing Policy*, (undated).

¹²⁷ Federal Inland Revenue Service, *Fraud Alert*, (2016).

¹²⁸ Chiumya, *supra* n. 98.

¹²⁹ H.G. Grasmick et al, *Render Unto Caesar What Is Caesar's: Religiosity and Taxpayers' Inclinations to Cheat*, 32 *The Sociological Quarterly* 2, 251-266 (1991).

¹³⁰ Polity, SARS: *Statement by the South Africa Revenue Services, Enforcement and Customs Operations for June 2014*, (16 July 2014).

¹³¹ E. Davis, *New Law to Name and Shame Tax Evaders*, *Business World Ghana*, (16 August 2016).

¹³² ATAF, *supra* n. 105.

¹³³ ATAF, *supra* n. 105.

¹³⁴ On the concept of frictions, see D. Halpern, *supra* n. 79.

¹³⁵ J. Roeleveld and C. De Wet, *South Africa*, in L. *The Future of Indirect Taxation* (T. Ecker et al, Kluwer Law International 2012).

taxes.¹³⁶ Similarly, education can play an important role in removing natural tax compliance frictions, and thus reducing VAT fraud. Therefore, most African countries have invested significantly on taxpayer VAT education: 22 countries have centralized taxpayer education units;¹³⁷ in Malawi brochures are issued to explain the tax legislation, public forums are held where taxpayers can meet face to face with tax officials to get advice on their tax matters, and discussions on taxation are held on national radio;¹³⁸ Rwanda has implemented several education initiatives, including a “taxpayer’s week” that involves political leaders communicating on the importance of taxation;¹³⁹ and Burundi, together with 15 other African countries, operates a call centre to assist taxpayers, including in particular illiterate taxpayers that still make up the majority.¹⁴⁰

Finally, third-party reporting, which is a core feature of VAT, and known to have an important role in tax compliance,¹⁴¹ is being extended to fraud prevention through the use of compliance certificates.¹⁴² These certificates confirm the compliance status of taxpayers, and can be used by others to ensure they do not do business with those involved in tax fraud. The rationale, as presented by the SARS, is that if the businesses only contract with tax compliant suppliers, this will improve overall levels of compliance.¹⁴³ Tanzania,¹⁴⁴ Zimbabwe,¹⁴⁵ Kenya,¹⁴⁶ Ghana,¹⁴⁷ and Nigeria,¹⁴⁸ have all introduced similar initiatives, and issue tax compliance certificates.

Legal Design Measures

Whilst legal design features have a significant impact on the incidence of VAT fraud, and some types of fraud are only possible in the presence of specific legal features, namely exclusions from the VAT base, anti-fraud policy in African countries has devoted limited attention to legal design issues. One exception has been the VAT registration thresholds, to which significant attention has been paid in African countries. VAT registration thresholds have the peculiarity of being susceptible to increase fraud both if set too low –as they increase the tax administration burden, and spread the administration too thin– and if set too high –as they create a cliff-edge that increases failure to register.¹⁴⁹ Finding a balance is difficult, and will depend on local circumstances, but many African countries have

¹³⁶ SARS, *Introduction of new single registration system at SARS*, (2014); and B. Schlenter, *The Taxing Business of Money Laundering: South Africa*, 16 *Journal of Money Laundering Control* 2, 126-141 (2013). See also IMF, *Republic of Congo: Poverty Reduction Strategy Paper – Annual Progress Report*, IMF Country Report No. 10/69, (2010).

¹³⁷ ATAF, supra n. 105.

¹³⁸ Chiumya, supra n. 98.

¹³⁹ GTZ Sector Programme Public Finance, supra n. 117.

¹⁴⁰ ATAF, supra n. 105.

¹⁴¹ L. Lederman, *Statutory Speed Bumps: The Roles Third Parties Play in Tax Compliance* 60 *Stanford Law Review*, 695-746 (2007); and Pomeranz supra n. 7.

¹⁴² The involvement of third-parties in crime prevention, known as responsabilisation, is part of a general trend in crime prevention, as discussed in De la Fera, supra n. 13.

¹⁴³ SARS, *Managing Your Tax Compliance Status With SARS*, (2016).

¹⁴⁴ EY, *Tanzania Adds Tax Clearance Certificate as Requirement for Business Licence*, (2015).

¹⁴⁵ Zimbabwe Revenue Authority, *Tax Clearance Certificates Explained*, (2014).

¹⁴⁶ Kenya Revenue Authority, *Tax Compliance Certificate Application Guidelines*, (2016).

¹⁴⁷ Ghana Revenue Authority, *Taxpayer Identification Numbering System*, (2016).

¹⁴⁸ PWC, *FIRS Demands Full Compliance with All Taxes as a Precondition for Tax Clearance Certificate*, (2016).

¹⁴⁹ Lockwood and Liu, supra n. 25.

been increasing their VAT thresholds,¹⁵⁰ such as South Africa,¹⁵¹ and Mali,¹⁵² so as to increase effective enforcement.¹⁵³ Table 6 summarizes the tax thresholds of 17 African countries as of 2016.¹⁵⁴ As can be seen, the average for these countries is US\$ 151,755, which is much higher than the OECD average of US\$ 34,241.

Table 6: African Tax Outlook (ATO) countries' VAT thresholds in 2016

Country	US\$	Country	US\$
Botswana	219 250	Rwanda	68 863
Burundi	151 157	Seychelles	269 143
Cameroon	221 741	South Africa	170 387
		Swaziland	99 761
Kenya	106 794	Tanzania	57 943
Lesotho	178 534	Togo	221 433
Malawi	53 918	Uganda	144 511
Mauritius	360 729	Zambia	240 312
Mozambique	38 174	Zimbabwe	120 482
Niger	0		
Nigeria	0	Average	146 355

V. Conclusion: The Tax Policy-Administration Symbiosis

Although the last few years have witnessed an increase in the adoption of measures to combat and prevent VAT fraud, in various African countries, it is clear that these measures have, at best, been only partially successful. Indeed despite lack of exact estimates of VAT fraud –with even VAT enforcement gap measurements absent in all but one African country– evidence on specific instances of fraud, existing levels of informality, high incidence of various factors known to negatively impact VAT compliance, and, crucially, low c-efficiency levels, all indicate that many African countries continue to be plagued by high VAT fraud. Although this lack of effectiveness naturally results from a multitude of factors, rather than any single factor alone, it is argued that a comprehensive approach to VAT anti-fraud policy that acknowledges the dynamics of tax policy-administration symbiosis, rather than *ad hoc* and/or gradualist one,¹⁵⁵ is a necessary precondition for success.

Traditionally the interaction between tax policy and tax administration has been a hierarchical one: tax policy preceding tax administration in the *ordo cognoscendi*, with tax administration regarded as the mere implementation of tax policy. This traditional view is now being increasingly challenged, with a progressive recognition that tax

¹⁵⁰ ATAF, supra n. 105.

¹⁵¹ SARS, supra n. 96.

¹⁵² IMF, *Mali*, IMF Country Report No 13/355 (2013); and IMF, *Mali Technical Assistance Report – Tax Policy – Diagnostic Assessment*, (March 2016).

¹⁵³ On enforcement elasticities, see Keen and Slemrod, supra n. 54.

¹⁵⁴ ATAF, supra n. 105.

¹⁵⁵ On gradualist approach to tax reforms see M. Castanheira et al, *On the Political Economies of Tax Reforms: Survey and Empirical Assessment*, 19 *International Tax and Public Finance* 4, 598-624 (2012).

systems are as dependent upon enforcement, as they are upon policy.¹⁵⁶ It is argued that the nature of this interaction between tax policy and enforcement is one of symbiosis: a term used in natural sciences to suggest an ongoing close association between two organisms, where the outcome for one is strongly connected with that of the other.¹⁵⁷ Addressing VAT fraud in developing countries requires recognition of this symbiotic relationship: administrative measures with the aim of enhancing compliance, are most effective when adopted in conjunction with, or in the context of, a legal system designed to minimize the incidence of fraud. Conversely, whilst policy measures can significantly contribute to an increase in VAT compliance in developing countries, particularly through the introduction of a broad base, such measures will be most effective when taken in conjunction with administrative measures that considering existing administrative constraints.

A successful VAT anti-fraud policy requires, therefore, a comprehensive and consistent approach to tax administration,¹⁵⁸ which considers the various measures successfully implemented in African and non-African countries, such as those founded on behavioural science, and the use of new technologies, whilst taking into account local economics and social circumstances. However, beyond tax administration measures, it also requires consideration of the legal design features of the VAT system, and in particular exclusions of the base which are known to create opportunities for fraud. Whilst VAT registration thresholds have been a subject of growing attention –in what is a good example of recognition of the tax policy-administration symbiosis– and less than half of the African countries apply multiple-rate systems, most still make extensive use of zero-rating and exemptions, and base broadening reforms are relatively rare. This lack of progress on implementation of base broadening measures is most likely directly related to political economy considerations, resulting from public perceptions over the regressivity of the VAT,¹⁵⁹ rather than lack of concern over the fraud phenomenon. Yet, as with other types of illegal or criminal activity, a pro-active approach is more effective than a purely reactive one, and designing the tax in a manner that prevents fraud is crucial to addressing the phenomenon.¹⁶⁰ Only by recognising the tax policy-administration symbiosis, can real VATs fulfil their potential;¹⁶¹ not only in terms of efficiency and neutrality, but crucially, as a self-enforceable tax.

¹⁵⁶ “The best tax policy in the world is worth little if it cannot be implemented effectively”, see R. Bird, *Administrative Dimensions of Tax Reform*, 15 *Annals of Economic Finance* 2, 963-992 (2014), at 963. See also V. Tanzi, *Public Finance in Developing Countries* (Edward Elgar, 1991); R. Bird, *The Administrative Dimension of Tax Reform in Developing Countries in: Tax Reform in Developing Countries* (M. Gillis (ed), Duke University Press, 1989); and D. Pomeranz and J. Vila-Belda, *Taking State-Capacity Research to the Field: Insights from Collaborations with Tax Authorities*, 11 *Annual Review of Economics* (2019).

¹⁵⁷ For a detailed examination of the historical unfolding of symbiosis theory, see J. Sapp, *Evolution by Association: A History of Symbiosis* (Oxford University Press, 1994); see also R. Dawkins, *The Selfish Gene* (Oxford University Press, 1989). For an analysis of the term in the context of social sciences, see C. O'Reilly, *The transnational security consultancy industry - A case of state-corporate symbiosis*, 14 *Theoretical Criminology* 2, 183–210 (2010).

¹⁵⁸ See also Casey and Castro, *supra* n. 101, at 9, on how new technologies *per se* are not a panacea, and must be part of a comprehensive approach.

¹⁵⁹ R. de la Feria and M. Walpole, *The Impact of Public Perceptions on VAT Rates Policy*, forthcoming.

¹⁶⁰ See above on situational crime prevention.

¹⁶¹ In the sense given to the term by James, *supra* n. 1.