

# Assessing value added tax compliance burden in Gulf Cooperation Council countries

Mahmoud Abdellatif\* and Binh Tran-Nam\*\*

## ***Abstract***

In 2017, the Gulf Cooperation Council (GCC) member countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates (UAE)) ratified the Unified Value Added Tax (VAT) Agreement, which set out the general principles for imposing VAT and mandated each GCC member state to introduce a VAT by January 2018. Four GCC countries have so far introduced VAT, namely, Saudi Arabia, UAE, Bahrain and Oman. None of these countries possess a mature tax system. In fact, they also lack a well-defined tax culture and tax morale, and their tax administrations are not yet well developed. Thus, the introduction of VAT could give rise to a serious issue regarding VAT compliance burden. In this context, this article aims (i) to examine the new VAT in the four GCC countries, and (ii) to compare qualitatively the likely VAT compliance burden among these four countries, and relative to other VAT-imposing countries, specifically member countries of the Forum on Tax Administration (FTA). We adopt the VAT Diagnostic Tool approach, which has been developed by an Australia-based research team and applied successfully to assess VAT compliance burden in FTA countries. The findings of the article suggests that while the four GCC countries belong to the medium VAT compliance burden group, they compare very favourably with FTA countries. More specifically, they perform above the FTA average in minimising compliance burden that arises from VAT policy complexity and administration complexity, but below FTA average in terms of revenue capabilities in meeting taxpayer service and compliance needs. A small number of policy recommendations are proposed with a view to maintaining or improving the good performance of GCC countries in terms of VAT complexity. They include: (i) formal recognition of the importance of tax system simplicity; (ii) use of VAT Diagnostic Tool Factors/indicators in guiding the design or simplification of VAT policy and administration; (iii) restraint from making VAT policy and administration changes without supporting evidence, and (iv) capacity building in tax administration.

**Keywords:** tax compliance burden, VAT Diagnostic Tool, GCC countries, FTA countries

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\* Associate Professor, College of Business and Economics, Qatar University, email: m.abdellatif@qatar.edu.au. This article is a substantially revised version of a paper presented at the 15th International ATAX Tax Administration Conference, organised by the School of Accounting, Auditing and Taxation, UNSW Sydney and held in Sydney, 4-5 April 2023. Valuable comments from the conference participants are acknowledged. The usual caveat applies.

\*\* Professor, School of Accounting, Auditing and Taxation, UNSW Sydney, email: b.tran-nam@unsw.edu.au; International Fellow, Tax Administration Research Centre, Exeter University.

## 1. INTRODUCTION AND CONTEXT

In Gulf Cooperation Council (GCC) countries, the bulk of government revenue is derived from the hydrocarbon sector, making government revenue dependent mainly on one revenue source. The dominance of hydrocarbon revenues decreases the significance of developing and implementing tax policy and also diminishes the functional role of taxation in GCC countries. Furthermore, a tax-paying culture is absent among citizens and residents of GCC countries. Such a situation might be acceptable if the international oil price was consistently and indefinitely high, which would result in budget surpluses in those resource-rich countries. However, oil prices are often vulnerable to sharp fluctuation over time. For example, after more than a decade of low oil prices during the 1990s, oil prices had significantly increased to high levels during the period 2003-14 before declining again since the last quarter of 2014. Such a decline in oil prices has a significant impact on the government revenue in all GCC countries. To mitigate the impact of oil price fluctuations, GCC governments accordingly started to reform their tax policies and consequently tax systems. This has been manifested in ratifying the GCC Unified Value Added Tax (VAT) Agreement in 2017, which set out the general principles for imposing VAT and mandated each GCC member state to introduce a VAT by January 2018. Four countries have so far introduced a VAT, namely, Saudi Arabia, UAE, Bahrain and Oman.

Introducing a new tax in an immature tax system without well-defined tax culture/morale and developed tax administration could give rise to a serious issue regarding VAT compliance burden (Delghan, Abdellatif & Gomaa Abdel-Salam, 2021). In this context, this article aims to examine the new VAT in the four GCC countries, and to compare qualitatively the likely VAT compliance burden in these four GCC countries with those in the Forum on Tax Administration (FTA) member countries.<sup>1</sup> In addition, specific recommendations to mitigate the VAT compliance burden in all GCC countries will also be provided.

To achieve the above aims, the mixed research method of the VAT Diagnostic Tool is employed. The Diagnostic Tool approach was developed by an Australia-based research team and has recently been applied by various tax researchers to assess the relative compliance burden of VAT and corporate income tax in a number of countries (Highfield, Evans & Walpole, 2019; Evans et al., 2020; Zu, Evans & Krever, 2020; Brown & Sadiq, 2023).

The remainder of this article is organised as follows. Section 2 briefly discusses the development of VAT in Saudi Arabia, UAE, Bahrain and Oman in order to prepare the ground for the discussions that follow. Section 3 presents a brief literature review on measures of tax compliance burden, focusing on the composite index approach, which includes the VAT Diagnostic Tool as an example. Section 4 presents the research methodology and data collection, describing how the VAT Diagnostic Tool can be implemented in a step-by-step procedure. The results from the survey are then discussed and analysed in section 5. Some specific recommendations for mitigating VAT compliance burden in GCC countries are also proposed. The final section provides some concluding remarks.

## 2. VALUE ADDED TAX IN GULF COOPERATION COUNCIL COUNTRIES

The tax systems in developed and developing countries typically consist of direct and indirect taxes. The major direct taxes are individual income tax and corporate income

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<sup>1</sup> The FTA, created in 2002, brings together Commissioners from over 50 advanced and emerging tax administrations from across the globe, including all Organisation for Economic Co-operation and Development (OECD) and G20 member countries.

tax, whereas the main indirect tax is VAT, alternatively known as Goods and Services Tax (GST). Those taxes represent the major components of the tax mix and the main sources of tax revenue. Nevertheless, the situation in GCC countries is different from that in other countries as the major source of GCC government revenue is derived from the hydrocarbon sector, while the contribution of tax revenue to government revenue remains low. For example, recent International Monetary Fund (IMF) reports indicate that the tax to Gross Domestic Product (GDP) ratios in Oman (IMF, 2022a), Qatar (IMF, 2022b), Saudi Arabia (IMF, 2022c) and UAE (IMF, 2022d) in 2021 were 6.5%, 3.2%, 14.2% and 14.9%, respectively. The bulk of tax revenue is derived from corporate income tax on oil and gas companies, and the recently introduced VAT.

The dependence on oil and gas revenue, accompanied by the low contribution of tax revenue to total government revenue, makes government revenue in GCC countries vulnerable to fluctuations in oil and gas prices (Abdellatif, Eid & Tran-Nam, 2017). As a result, the IMF had been advising GCC countries to find ways to diversify government revenue through restructuring their tax mix. Accordingly, GCC countries commenced tax reform through the introduction of a broad-based consumption tax, resulting in the GCC Unified VAT Agreement in 2017. The following sections provide a brief description of VAT in each of the four GCC countries under study.

## 2.1 Unified VAT framework for GCC countries

In May 2017, the GCC countries ratified the Unified VAT Agreement, which set out the general principles for introducing VAT in each member state. These principles include the following:

- the use of the destination principle for taxing goods and services;
- a list of goods and services taxable under VAT;
- VAT registration thresholds, equal to SAR 375,000 (approximately AUD 147,450 according to the average June 2023 exchange rate);
- A VAT standard rate of 5% in all member states;
- zero-rating applicable on exports;
- taxing imports at the first entry country;
- special VAT rules for a number of sectors such as the financial sector, education services, and health care; and
- the treatment of intra-trade between GCC countries.

These principles should be reflected in the VAT legislation of each member state and the legislation should come into force by 1 January 2018. Nevertheless, VAT was introduced in only four countries. Saudi Arabia and UAE enacted their VAT laws on 1 January 2018, while Oman and Bahrain enacted their VAT laws in April 2021 and January 2022, respectively.

## 2.2 VAT legislation in GCC countries

The VAT in Saudi Arabia was enacted by *Law No. 113* in January 2018. The VAT standard rate was 5% which increased to 15% from July 2021 onward. The registration threshold is SAR 375,000 and voluntary registration is allowable for businesses with an annual turnover below the threshold.

The VAT legislation in the UAE is the *Federal Decree Law No. 8 of 2017* enacted on 1 January 2018. The VAT registration threshold is AED 375,000 (equivalent to SAR

375,000 at the time) and the VAT standard rate is also 5%. The executive regulation provides more details with regard to the scope of taxable goods and services. Also, it provides further details with regard to a taxpayer's obligations.

In Oman, VAT was introduced by *Law No. 121 of 2020* which became effective on 16 April 2021. The VAT registration threshold is OMR 38,500 (equivalent to SAR 375,000 at the time) and businesses with an annual turnover below the threshold may opt to register voluntarily. The VAT standard rate is 5%.

In Bahrain, VAT has been introduced by *Law No. 48 of 2018* which entered into force on 1 January 2022. The VAT standard rate is 10%, and the registration threshold is BHD 37,500 (equivalent to SAR 375,000 at the time) according to Article 33 of the executive regulation.

It is obvious that the four countries followed the Unified GCC VAT Agreement regarding the registration threshold. Nevertheless, there are two important deviations from the Agreement. These are: (1) only two countries (Saudi Arabia and UAE) implemented VAT by the proposed date of by 1 January 2018, and (2) only two countries (UAE and Oman) implemented and continue to impose VAT at the standard rate of 5%.

### 2.3 The main features of VAT in GCC countries

The VAT legislation of each country provides specific treatment for a number of goods and services in accordance with the Unified GCC VAT Agreement. These items include, for example, exports, basic foods, and oil and gas. Special treatment is also provided to a number of services, namely, financial services, housing, education and health services. These measures are summarised in Table 1.

**Table 1: Main Features of VAT in GCC Countries, 2022**

VAT treatment	Saudi Arabia	UAE	Bahrain	Oman
Export of goods and services	Zero-rated	Zero-rated	Zero-rated	Zero-rated
Education	Zero-rated/ taxed (non-citizens)	Zero-rated*	Zero-rated	Exempt
Health	Zero-rated	Zero-rated	Zero-rated	Exempt/ Zero-rated
Financial services	Exempt	Exempt	Exempt	Exempt
Governmental bodies	Refund mechanism	Recovery mechanism	Taxed/Recovery mechanism	Recovery mechanism
Basic food commodities	Taxed	Taxed	Zero-rated*	Zero-rated*
Crude oil, gas and derivatives	Taxed	Zero-rated/ Taxed	Zero-rated	Zero-rated

Source: Relevant legal provisions in GCC countries.

\* Some education and basic food commodities are only exempted, not zero-rated.

It is apparent that all GCC countries zero rate exports and exempt financial services, which aligns with the Unified VAT Agreement. Health care services are zero-rated in Saudi Arabia, UAE and Bahrain, but they are subject to specific conditions in Oman so that health care may be exempted or zero-rated in that country. Similarly, basic foods are taxed in both Saudi Arabia and the UAE, but are zero-rated in both Bahrain and Oman. These differences in tax treatment of merit services and necessity goods reflect the different tax policies implemented by each country, despite their ratification of the Agreement.

#### **2.4 Taxable period and tax return**

Taxable period refers to the period for which the taxable business is required to report to the tax authority on its VAT obligation. The length of the taxable period indicates the frequency for filing tax return (Schenk, Thuronyi & Cui, 2015, p. 237). An important aspect for managing VAT compliance is the frequency of filing the VAT return. Article 60 of the Unified VAT Agreement provides the freedom to each member country to determine the taxable period. In this context, Saudi Arabia's VAT legislation provides different filing periods depending on the annual turnover of businesses. In this case, if the taxable business's annual turnover exceeds SAR 40.0 million, it is required to file a tax return monthly in accordance with Article 58 of the executive regulations of VAT law. If annual turnover is SAR 40.0 million or less, a taxable business is required to file the tax return quarterly. The tax return must be filed within one month from the ending date of the taxable period in accordance with Article 62 of the executive regulation.

As stated in Article 62 of the executive regulation of the UAE's VAT law, the taxable period is three months (quarterly) regardless of the taxable business's annual turnover. A taxable business is required to file a tax return within 28 days from the end of the taxable period. A similar taxable period is implemented in Oman, as the taxable period is three months (quarterly), and a taxable business is required to file a tax return within 30 days of the ending date of the taxable period in accordance with Article 72 of the executive regulation.

Bahrain's VAT law uses two taxable periods in a similar way to Saudi Arabia's approach. Taxable businesses with an annual turnover exceeding BHD 3.0 million are required to file a tax return monthly. If annual turnover equals BHD 3.0 million or less, a taxable business is required to file a tax return quarterly in accordance with Article 48 of the executive regulation. A taxable business is obliged to file a tax within one month from the ending date of the taxable period in accordance with Article 49 of the executive regulation.

### **3. BRIEF LITERATURE REVIEW ON MEASURES OF TAX COMPLIANCE BURDEN**

Tax complexity, however defined, is an inevitable feature of any modern tax system. Tax complexity give rises to non-trivial tax operating costs,<sup>2</sup> which can be defined as the sum of compliance costs (borne by taxpayers) and tax administration costs (borne by the government). The simplicity criterion of good tax policy calls for tax operating costs to be minimised in raising any given amount of tax revenue. The present review focuses on tax compliance costs because such costs are not only more interesting conceptually than tax administration costs but also represent the bulk of tax operating costs (Evans, 2008, p. 447).

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<sup>2</sup> Tax operating costs are often known as tax administration costs in the US; see, for example, Stiglitz (2000, p. 464).

Since tax complexity is multi-dimensional and can be captured in different ways, many different tax complexity indicators have been proposed in the literature. They include, for example, number of taxes, number of pages or words of tax legislation, number of tax reliefs/concessions, extent of use of tax advisers, level of tax litigation, etc. Broadly speaking, these alternative approaches to measuring tax complexity can be classified into three categories: legal complexity, effective complexity and composite complexity index. Since the various measures of legal and effective complexity have been well discussed elsewhere (see, for example, Sandford, Godwin & Hardwick, 1989; Evans, 2008; Tran-Nam & Evans, 2014, p. 350), the remainder of this section focuses on the composite indexes of tax complexity.

### 3.1 Measures of legal tax complexity

Legal tax complexity refers to the difficulty with which a particular tax law can be read, interpreted and applied in various hypothetical or actual situations (Tran-Nam, 1999, p. 508). This definition can be broadened to include tax administrative requirements. A variety of measures of the extended notion of legal complexity have been proposed and implemented in the literature on tax complexity. They include:

- tax law readability (for example, Tan & Tower, 1992; Richardson & Smith, 2002);
- number of lines in the state income tax forms; number of pages in the instruction booklets (Slemrod, 2005);
- number of state tax expenditures in the US (Weinstein, 2014);
- the World Economic Forum (WEF)'s Tax Complexity Score (Schwab, Porter & Lopez-Claros, 2006) based on a survey of business executive perceptions;
- perceptions of business tax law complexity based on survey studies of tax advisers, tax educators and tax administrators (see, for example, O'Neil, Samelson & Harkness, 1997; Davies, Carpenter & Iverson, 2001; Burton et al., 2021)

Measures of legal complexity are dimensionless and generally not appropriate for international comparison.

### 3.2 Measures of effective tax complexity

Effective complexity from the taxpayer perspective refers to the time and effort (value of resources) expended by taxpayers and third parties as they come into interaction with the tax system (Tran-Nam, 1999, p. 508). The best-known measure of effective tax complexity by far is tax compliance costs, universally defined as those costs incurred by taxpayers or third parties in satisfying the requirements of the tax system (Sandford et al., 1989, pp. 3 and 10). The method for estimating tax compliance costs is based on either the Sandford approach or one of its variants (Sandford et al., 1989) or the European Union's Standard Cost Model, also known as the Dutch Model (Ramboll Management Consulting, The Evaluation Partnership and Europe Economic Research for the European Commission, 2013, pp. 23-26). Under both methods, tax compliance costs can be estimated as the inner product of a vector of relevant quantities (such as number of hours per year spent by internal accountants to keep businesses' tax records) and a vector of corresponding prices (such as average wage rate of internal accountants) where data on the quantity vector is typically obtained from a large-scale survey of taxpayers and the data on the price vector from the same survey or other external

sources. It is widely acknowledged that there are several conceptual and measurement problems in estimating tax compliance costs.

Estimated tax compliance costs derived from empirical studies can be expressed either in dollar terms (for example, average VAT compliance costs per VAT payer; aggregate VAT compliance costs for all VAT payers) or relative terms (for example, as a percentage of business turnover of the corresponding tax revenue). In addition to tax compliance costs, there are also much simpler measures of effective tax complexity. Examples of these naïve measures include:

- percentage of firms identifying tax administration as a major constraint derived from World Bank's Enterprise Surveys (World Bank, 2023).
- the now defunct World Bank and PricewaterhouseCoopers (PwC) Paying Taxes data, for example, time taken to prepare, file and pay taxes (hours/year) (PwC & World Bank, 2019).
- the European Association Comenius (EACO) World Tax Index which included hours needed for paying taxes per year (Kotlán & Machová, 2012).

### 3.3 Measures of composite tax complexity

The third method for measuring tax complexity is the tax compliance burden index approach. Before proceeding further, it may be helpful to discuss the subtle difference between tax compliance costs and compliance burden although these two terms have been used more or less interchangeably in the literature. As discussed previously, tax compliance costs represent the attempt to monetise the opportunity costs of a taxpayer's compliance. Tax compliance burden, by contrast, is somewhat broader, multidimensional and more qualitative. It is not a single numerical estimate of all costs, but a vector of many qualitative and quantitative factors. It may include factors that do not fit easily into the tax compliance cost quantification framework such as the psychological stresses experienced by individuals or small business owners in dealing with their tax affairs.

Tax compliance burden indexes (sometimes known as tax diagnostic tools) assess tax complexity in terms of a set of related variables (often referred to as factors and, within each factor, there can be many indicators) that together capture the complexity of the tax law or system under study. These factors and indicators are mainly related to legal and administrative complexity and tend to be qualitative although selected elements of effective complexity can also be incorporated into the indexes.<sup>3</sup> This kind of approach in summarising a vast amount of information in a tax law or national tax system for the purposes of international or intertemporal comparison has become increasingly popular in recent times.

The construction of tax compliance burden indexes is based on the composite indicator methodology, which has a longstanding tradition in the literature.<sup>4</sup> A composite indicator shows how a group of related variables (factors and indicators) varies with respect to geographical location, time or both. The use of different factors and indicators in composite indicator construction gives rise to two key problems: (i) weighting (how weights are assigned to each factor or indicator), and (ii) aggregation (how weighted

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<sup>3</sup> For example, the Office of Tax Simplification (OTS) Complexity Index contains 'number of taxpayers' and 'aggregated compliance burden for a taxpayer and HMRC' as indicators; see OTS (2017). These indicators are clearly measures of effective complexity.

<sup>4</sup> Composite indicators are related to index numbers which date back to the 18th century; see also Diewert and Nakamura (1993) and OECD (2008).

factors and indicators are combined to arrive at the values of the index). For a discussion on methodological issues relating to the construction of a composite tax complexity index, interested readers are referred Tran-Nam and Evans (2014).

There are currently three main types of composite tax compliance burden index, namely, the OTS Complexity Index, Global Multinational Corporation (MNC) Tax Complexity Index and VAT Diagnostic Tool. The OTS Complexity Index, first published by the OTS in 2012, appears to be the earliest example of composite index of tax compliance burden (OTS, 2017). It went through several iterations and ceased to be updated after 2015. The OTS Complexity Index has two sub-indexes: Underlying complexity and Impact of complexity. While the OTS Complexity Index was designed for the UK tax legislation, it has subsequently been applied to many other countries such as Portugal (Borrego, Lopes & Ferreira, 2016), and Australia, New Zealand and Turkey (Budak & James, 2016).

The Tax Complexity Index arose from the Global MNC Tax Complexity Project by Ludwig Maximilian University of Munich and Paderborn University, Germany.<sup>5</sup> The index measures the complexity of a country's corporate income tax system as faced by multinational corporations where the scope of the Project is worldwide with a special focus on OECD countries. Its composition is based on two factors: tax code complexity (with 15 indicators) and tax framework complexity (with five indicators). The index is an arithmetic mean of all 20 indicators with equal weights. Since each indicator is measured within the unit interval (where 0 stands for no complexity and 1 for maximum complexity), the overall value of the index also lies between 0 and 1. The data for the index has been derived from a survey of consultants of international tax services firms, conducted every two years from 2016. The Project website currently shows the results of the surveys in 2016, 2018, 2020 and 2022.

The VAT Diagnostic Tool was initiated by the OECD in 2012 and subsequently developed by tax academics at UNSW Sydney and other international universities. The study was conducted in two stages: a pilot study of 13 countries carried out in 2017 (Highfield et al., 2019) and a full study of 47 FTA countries conducted with KPMG International's collaboration commencing in mid-2018 (Evans et al., 2020). While the Tool is based on the composite index approach, its intention is diagnosis rather than ranking countries in terms of their GST/VAT compliance burden. This is because the ranking of tax performance of countries is fraught with difficulties, not least the political pressure that inevitably emanates from any ranking methodology, as illustrated by the recent discontinuation of the World Bank's Doing Business Report (World Bank, 2021). Instead, the Tool seeks to diagnose variations in aspects of the compliance burden in different countries, highlighting those factors or indicators that contribute to that burden and thereby enabling countries to identify the means by which that burden can be mitigated. The detailed implementation of the Tool will be further discussed in the next section.

#### 4. RESEARCH METHODOLOGY AND DATA COLLECTION

This section is concerned with the research approach of the article. It first briefly explains the overall research design of the present study. It then describes how the VAT Diagnostic Tool can be applied in a step-by-step fashion. Finally, primary data collection from a questionnaire-based survey is discussed.

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<sup>5</sup> Global MNC Tax Complexity Project, 'Tax complexity index', <https://www.taxcomplexity.org/info/> (accessed 27 November 2023).



## 4.1 Overview of research design

The research design of any tax study involves three separate but related elements: research framework, research method and data collection. The research framework of the present article is positivist because the study rests on the fundamental postulation that VAT compliance burden is causally related to a number of variables (or determinants), which are to be identified in the next section. To achieve the research aim, the article employs the VAT Diagnostic Tool, which is an increasingly popular method for examining the comparative VAT burden of a group of countries. The tool is consistent with the mixed-methods approach that combines elements of quantitative and qualitative research to address the research issues under study. Further, the study utilises both primary and secondary data where primary data is collected from a questionnaire-based survey and secondary data is derived from a previous study (Evans et al., 2020).

## 4.2 The VAT Diagnostic Tool

The VAT Diagnostic Tool was chosen for a number of reasons. First, the Tool was specifically designed for assessing the VAT compliance burden, which matches the principal aim of this article. Secondly, the Tool is easily replicable to other countries or a different year of study. Thirdly, and most importantly, the Tool is ‘fit for purpose’ as a robust instrument capable of measuring and evaluating the VAT compliance burden across the 47 FTA countries, and of identifying the key drivers of that burden (Tran-Nam et al., 2021). The factors/indicators, weighting, aggregation and rescaling of the VAT Diagnostic Tool are discussed below in turn.

### 4.2.1 *The VAT Diagnostic Tool’s factors and indicators*

The VAT Diagnostic Tool identifies four key factors affecting compliance burden:

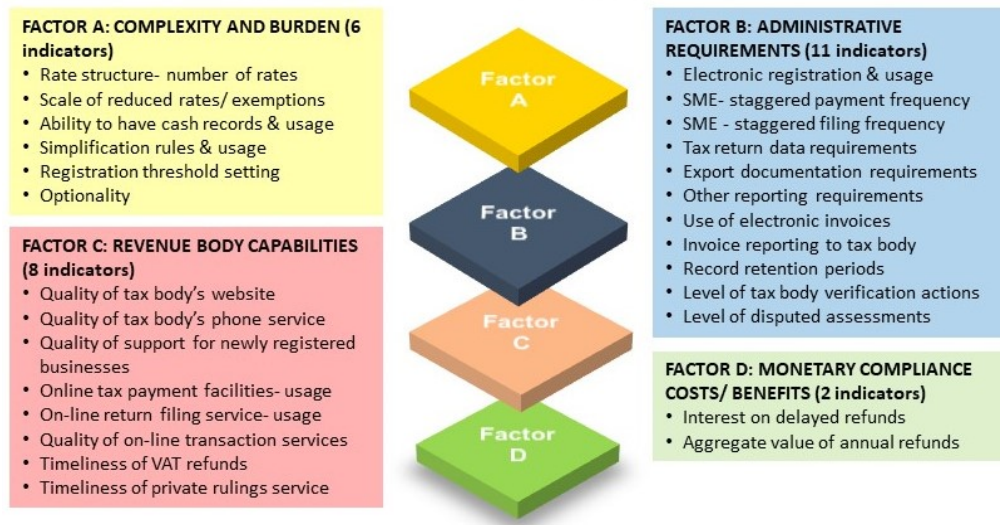
Factor A – Tax law complexity and burden resulting from core elements of VAT policy;

Factor B – Number and frequency of administrative requirements to comply;

Factor C – Revenue body capabilities in meeting taxpayers’ services and compliance needs;

Factor D – Monetary costs/benefits associated with the act of complying.

Each factor contains a number of indicators. As illustrated in Figure 1, there are 27 indicators in total. Each indicator has a variable range of responses. The full list of indicators with their ranges of responses and corresponding score is provided in Appendix 1.

**Fig. 1: VAT Diagnostic Tool's Factors and Indicators**

Source: Evans et al. (2020, p. 85).

Each indicator was justified by reference to a strategic policy or administrative objective aimed at minimising the VAT compliance burden. A higher score for an indicator means a higher compliance burden. For example, under Factor A, a plausible objective is 'The tax has a simple rate structure'. Corresponding to this objective is the indicator 'The VAT rate structure' with four categories: no reduced rate applies (other than a 'zero rate' for exports) (score = 1), one reduced rate applies (score = 2), two reduced rates apply (score = 3), and three or more reduced rates apply (score = 4) where reduced rates include 'zero-rated' goods and services, exclusive of exports. Another example, under Factor B, is the objective 'Technology is used to reduce the burden of VAT registration'. The corresponding indicator is 'Electronic VAT registration' with four categories: businesses can register electronically and over 50% use this method (score = 1); businesses can register electronically and 25-50% use this method (score = 2); businesses can register electronically and less than 25% use this method (score = 3), and businesses required to register must file applications on paper (score = 4).

#### 4.2.2 Weighting

A (normalised) weighting scheme for a composite index having  $n$  factors is a set of  $n$  positive numbers  $w_i$  ( $i = 1, 2, \dots, n$ ) whose sum equals unity.<sup>6</sup> In the case of the VAT Diagnostic Tool, the weights reflect the relative importance of the four factors (A, B, C and D) in determining the VAT compliance burden. Weights can have a significant effect on the overall composite index, so weighting is often considered as the most contentious aspect of composite index construction. There are many statistical techniques for assigning weights (OECD, 2008, pp. 89-102), but these methods are largely not applicable to diagnostic tools. In practice, there exist two alternative

<sup>6</sup> Mathematically speaking,  $w_i$  represents the partial effect of the  $i$ -th factor on the composite index, holding all other factors constant.

weighting schemes that are available to researchers: equal weighting and expert weighting.<sup>7</sup>

Equal weighting means all factors and indicators are worth the same to the summary index. It does not imply there are ‘no weights’ but typically reflects insufficient knowledge about the causal relationship or a lack of agreement on the alternative. Expert weighting refers to a weighting scheme that is derived from the opinion of experts who are familiar with the field being studied. Those experts can be qualified, independent persons participating in the study or external to it. The main advantage of expert weighting is its transparent and straightforward nature (OECD, 2008, p. 96).

A mixed approach to assigning weights was adopted in this study. Within each factor, all indicators were equally weighted. Between the factors, an expert weighting scheme was obtained from the eight respondents from various continents (Australia, Canada, Croatia, Indonesia, Malaysia, New Zealand, South Africa and Vietnam) in the pilot study in 2017 (Highfield et al., 2019, p. 627). The weights were derived from a two-round Delphi exercise.<sup>8</sup> In the first round, all participating tax researchers, informed by their own experience and research, were invited to independently suggest a weighting scheme for Factors A, B, C and D. In the second round, those eight researchers who took part in the first round were shown all proposed weighting schemes. At this stage, participating researchers had the option of maintaining or revising their initial suggestions.

In the end, the weights provided by the eight participants pointed to a reasonable degree of consistency. A geometric mean of the proposed weights was computed for each factor. This was because geometric mean is less affected by fluctuations in values of the components, and it lies between the arithmetic mean and the median. Since the sum of the geometric mean weights was not equal to 100%, the chosen weights were normalised, yielding 0.2899, 0.3430, 0.2629 and 0.1043 for Factors A, B, C and D, respectively.

#### 4.2.3 Aggregation and rescaling

The summary value of the VAT Diagnostic Tool can be derived as a weighted arithmetic or weighted geometric mean of the factors and indicators. The main advantage of arithmetic mean is that it is simple, intuitively straightforward and easy to interpret. The use of geometric mean has other advantages, especially when the study is conducted over time, as it always satisfies some axioms of index numbers (Tran-Nam & Evans, 2014, pp. 341 and 355). In this study, we opt for simplicity and use arithmetic mean although geometric mean can also be utilised for the purpose of robustness checking, if it is desired.

In symbolic form, the summary value of the Diagnostic Tool can be expressed as:

$$DT = w_A X_A + w_B X_B + w_C X_C + w_D X_D = 0.2899X_A + 0.3430X_B + 0.2629X_C + 0.1043X_D \quad (1)$$

where  $DT$  is the arithmetic mean value of the diagnostic tool and  $X_i$  ( $i = A, B, C$  and  $D$ ) is the total score of all indicators within the  $i$ -th factor (to be calculated from primary data).

From the questionnaire in Appendix 1, it can be established that min A = 6, min B = 11, min C = 8, min D = 2, max A = 26, max B = 38, max C = 30 and max D = 9.

<sup>7</sup> There is a third theoretical possibility, namely, user weighting. This can only be derived from a large-scale survey of VAT payers, which is practically impossible for an international diagnostic tool study.

<sup>8</sup> For a tax-related explanation of the Delphi approach, see Guglyuvatyy and Stoianoff (2015).

Applying formula (1), the theoretical minimum and maximum values of  $DT$  are  $DT_{\min} = 7.8236$  and  $DT_{\max} = 29.3949$ , respectively.  $DT$  is thus a decimal number varying between 7.8236 and 29.3949 inclusively. Since such a value cannot be easily interpreted by users of the Tool, it is helpful to convert  $DT$  into an index ( $DTI$ ) that varies from 1 to 10 where 1 and 10 represent VAT systems with a theoretically lowest and highest compliance burden, respectively. This can be achieved by the use of the following linear transformation:

$$DTI = 1 + 9(DT - 7.8236) / (29.3949 - 7.8236) = -2.3194 + 0.4243DT \quad (2)$$

It can be seen that when  $DT = DT_{\min} = 7.8236$ ,  $DTI = 1$  and when  $DT = DT_{\max} = 29.3949$ ,  $DTI = 10$ , as expected. The advantages of  $DTI$  are that they can be easily interpreted, and they can be used as an objective basis for classifying countries into various groups with respect to VAT compliance burden. Based on an empirical study of the 47 FTA countries (Evans et al. 2020, p. 87), a possible classification is given in Table 2.

**Table 2: Range of  $DTI$  Values and VAT Compliance Burden Classification**

Range of $DTI$ values	VAT compliance burden classification
Less than 3	Very low
3 to less than 4	Low
4 to less than 5	Medium
5 to less than 6	High
More than 6	Very high

Source: Evans et al. (2020, p. 87).

### 4.3 Primary data collection

The primary data for this study was obtained by means of a questionnaire-based survey. The full questionnaire, provided in Appendix 1, captured four factors, 27 indicators and their corresponding ranges of scores. The questionnaire was intended to provide relevant data on VAT of the surveyed countries for the calendar year 2022. In January 2023, we asked tax professionals from Deloitte offices in the four GCC countries (Saudi Arabia, UAE, Oman and Bahrain) to complete the questionnaire. The survey instrument was completed by the end of January 2023, reflecting the development of VAT in the four countries up to the end of 2022. The respondents answered the survey questions based on their expertise and the relevant publicly available materials. They also liaised, to the extent practicable, with relevant local tax authorities. There were a few questions in the questionnaire (for example, Factor D, Indicator 2) that required estimations by the participating tax professionals. The primary data from the completed questionnaire was then combined with comparable, secondary data from a previous study on FTA countries (Evans et al., 2020) for comparative analysis. The full dataset is available from the authors upon request.

## 5. RESULTS AND DISCUSSIONS

As noted in section 3, the VAT Diagnostic Tool primarily seeks to highlight those factors or indicators that contribute to VAT compliance burden, and therefore enables countries under study to identify the areas in which that burden can be mitigated.

Accordingly, we start with an examination of each of the four factors that constitute the *DT*.

### 5.1 Factor A: tax law complexity

Factor A corresponds to the perceived degree of complexity and compliance burden resulting from core elements of the VAT policy. The data relating to the six indicators within Factor A for the four GCC countries is summarised in Table 3.

**Table 3: Factor A Indicators, GCC Countries, 2022**

Compliance burden indicators	Range	Saudi Arabia score	UAE score	Bahrain score	Oman score
The VAT rate structure	1–4	2	2	2	2
The scale (that is, revenue impact) of reduced rates and exemptions	1–4	2	2	2	2
The use of cash records by specified small businesses to calculate the VAT liabilities	1–4	2	4	4	4
Use of rules for prescribed industries that simplify calculations of VAT liabilities	1–4	4	4	4	4
VAT registration requirements	1–8	1	3	1	1
Optionality (that is, the availability of optional regimes to small businesses)	1–4	2	2	2	1
<b>Unweighted total score</b>	6–28	13	17	15	14
<b>GCC's average of unweighted total scores</b>	14.75				
<b>FTA's average of unweighted total scores</b>	19.15				

Sources: Authors' calculations based on primary data collected and secondary data from Evans et al. (2020).

Since the VAT laws of the GCC countries are derived from the Unified VAT Agreement, it is reasonable to expect that the compliance burden arising from the core VAT policy would be largely similar amongst Saudi Arabia, UAE, Bahrain and Oman. This is borne out by the data in Table 3 which exhibits a very narrow range of values for each Factor A indicator. Overall, Saudi Arabia is the least burdensome (with a total score of 13) and UAE the most burdensome (total score of 17) in terms of VAT policy complexity. More specifically, Saudi Arabia is doing well with respect to the use of cash records by small business, while UAE is doing poorly in terms of VAT registration requirements.

The arithmetic mean value of Factor A total score for the GCC countries is 14.75. This average for 2022 compares favourably with both the theoretical values (ranging from 6 to 28 with an average of 17) and the FTA average of 19.15 in 2017, bearing in mind the five-year gap between the two data sets. The lower GCC's VAT policy complexity relative to that of the FTA on a country-by-country basis is illustrated in Figure 2 (see Appendix 2). In the combined sample of 51 countries (four GCC countries and 47 FTA countries), Saudi Arabia and UAE ranked 6th and 18th, respectively. The fact that the GCC is doing much better than the FTA in terms of Factor A is not overly surprising. It has been shown that VAT complexity tends to rise as the VAT system becomes more

mature (see Evans et al., 2020, p. 92). Since GCC countries are newcomers to VAT, it is therefore entirely plausible to expect their compliance burdens resulting from Factor A to be lower in comparison with those in FTA countries.

## 5.2 Factor B: number and frequency of administrative requirements to comply

Factor B is associated with the compliance burden arising from VAT administration requirements. The data relating to the 11 indicators within Factor B for the four GCC countries is summarised in Table 4.

**Table 4: Factor B Indicators, GCC Countries, 2022**

Compliance burden indicators	Range	Saudi Arabia score	UAE score	Bahrain score	Oman score
Electronic VAT registration	1–4	1	1	1	1
Staggered VAT payments for small businesses	1–3	1	1	1	3
Staggered return filing periods	1–3	1	1	1	1
Information requirements of typical VAT return form	1–4	2	2	2	2
Documentation requirements for exported goods and services	1–4	1	1	1	1
Other reporting requirements in addition to the VAT return	1–4	1	1	1	1
Use of electronic VAT invoices between businesses	1–4	1	4	4	4
Invoice reporting requirements to revenue body	1–3	1	1	1	2
Record retention periods	1–3	3	3	3	3
Number of VAT verification actions	1–3	3	3	3	2
Level of disputed VAT assessments	1–3	3	3	3	2
<b>Unweighted total score range</b>	11–38	18	21	21	22
<b>GCC's average of unweighted total scores</b>	20.50				
<b>FTA's average of unweighted total scores</b>	21.26				

Sources: Authors' calculations based on primary data collected and secondary data from Evans et al. (2020).

As in the case of Factor A, there are narrow ranges of values for most indicators within Factor B. Again, Saudi Arabia is the least burdensome (with a total score of 18) and Oman the most burdensome (total score of 22) in terms of VAT administration complexity. Saudi Arabia is doing particularly well with respect to the use of electronic invoices between businesses, while Oman is doing poorly in terms of staggered VAT payments for small businesses.

The arithmetic mean of the Factor B total score for the GCC countries is 20.50, which still compares well with both the theoretical values (ranging from 11 to 38 with an average of 24.5) and the FTA average of 21.26. This means that GCC countries are

doing better than FTA countries in terms of Factor B although the gap here is much narrower than that for Factor A. The lower GCC's VAT administration complexity relative to that of the FTA on a country-by-country basis is illustrated in Figure 3 (see Appendix 2). Saudi Arabia ranked 11th out of 51 countries, and both Bahrain and UAE were positioned better than the FTA average, where Oman is the only GCC country that ranked below the FTA average. As has been argued previously, it remains to be seen whether GCC countries can continue to maintain the above average performance in VAT administration complexity relative to the FTA countries as the GCC VAT systems become more mature over time.

### 5.3 Factor C: revenue body capabilities in meeting taxpayers' service and compliance needs

Factor C is concerned with indicators that provide an insight into how well each country's tax administration agency assists taxable businesses complying with their VAT obligations and thus reducing their compliance burdens. Table 5 presents the GCC countries' scores of eight indicators relating to the nature and quality of specific services of their tax administration agencies.

**Table 5: Factor C Indicators, GCC Countries, 2022**

<b>Compliance burden indicators</b>	<b>Range</b>	<b>Saudi Arabia score</b>	<b>UAE score</b>	<b>Bahrain score</b>	<b>Oman score</b>
The revenue body's website	1–3	2	2	2	2
The revenue body's phone enquiry service	1–4	2	2	2	2
Support for newly registered businesses	1–4	2	2	2	2
The revenue body's online tax payment facilities	1–4	1	1	1	1
The revenue body's VAT online return filing service	1–4	1	1	1	1
Quality of the revenue body's online transaction services	1–4	3	2	2	3
The revenue body's refunding of excess VAT payments	1–4	4	4	4	4
The revenue body's private rulings service	1–3	3	3	3	3
<b>Unweighted total score range</b>	<b>8–30</b>	<b>18</b>	<b>17</b>	<b>17</b>	<b>18</b>
<b>GCC's average of unweighted total scores</b>	<b>17.5</b>				
<b>FTA's average of unweighted total scores</b>	<b>16.04</b>				

Sources: Authors' calculations based on primary data collected and secondary data from Evans et al. (2020).

As with Factors A and B, there are hardly any differences in Factor C indicators among GCC countries. In fact, the only variation that occurs is concerned with Indicator 6 (quality of the revenue body's online transaction services among the GCC countries). Overall, UAE and Bahrain (with a total score of 17 each) are performing only marginally better than Saudi Arabia and Oman (with a total score of 18 each).

Unlike Factors A and B, the VAT compliance burden associated with the revenue body capabilities in GCC countries (with an average total score of 17.5) is somewhat higher than that in the FTA countries (with an average total score of 16.04). The relatively

poorer performance of GCC countries in terms of Factor C seems to arise from Indicators 7 (refund of excessive VAT payments) and 8 (VAT private ruling service) where all GCC countries exhibit the most burdensome scores of 4 and 3, respectively. Figure 4 (see Appendix 2) illustrates the ranking of GCC and FTA countries with respect to Factor D on a country-by-country basis. Both UAE and Bahrain were located below the FTA average while Saudi Arabia and Oman ranked in the group of 12 countries with the highest VAT compliance burden arising from revenue body capabilities.

The relatively poorer performance of GCC countries in terms of Factor D is not at all surprising. It can be reasonably expected that the revenue body capabilities in meeting taxpayers' service and compliance needs to improve over time. As discussed in the introductory section of the article, tax administration in GCC countries is still in its infancy. For example, the Federal Tax Authority in UAE was established in 2016 by *Law No. 13 of 2016* and, in Bahrain, the National Bureau of Revenue commenced operation in 2018 by *Law No. 5 of 2018*. Thus, it seems plausible to expect the GCC revenue bodies to catch up with FTA countries in providing supportive services that would assist VAT payers for coping with their compliance burdens.

#### 5.4 Factor D: monetary costs/benefits associated with the act of complying

Factor D consists of two indicators that investigate aspects of the monetary costs and benefits involved in complying with VAT laws. Table 6 presents the primary and secondary data relating to Factor D for GCC and FTA countries, respectively.

**Table 6: Factor D Indicators, GCC Countries, 2022**

Compliance burden indicators	Range	Saudi Arabia score	UAE score	Bahrain score	Oman score
The payment of interest on delayed refunds	1–4	4	4	4	4
Aggregate value of annual VAT refunds	1–9	1	1	1	1
<b>Unweighted total score</b>	2–5	5	5	5	5
<b>GCC's average of unweighted total scores</b>	5.0				
<b>FTA's average of unweighted total scores</b>	5.8				

Sources: Authors' calculations based on primary data collected and secondary data from Evans et al. (2020).

All GCC countries scored the same for both indicators within Factor D. The scores for the first indicator reflect the current issues related to VAT refunds and interest payments on late VAT refunds in GCC countries. These issues are positively correlated with Factor C on revenue body capabilities discussed above. The scores for the second indicator were estimated by survey respondents. Overall and on average, GCC countries are slightly ahead of FTA countries in terms of Factor D. As illustrated in Figure 5 (see Appendix 2), Bahrain, Oman, Saudi Arabia and UAE lay just ahead of the FTA overall average.



## 5.5 Overall results

The above discussions indicate that, in comparison with the FTA's VAT systems, the GCC's VAT systems are, on average, less burdensome to comply with in terms of VAT policy and administration complexity, but more burdensome in terms of revenue capabilities. Further, both FTA and GCC VAT systems perform more or less the same in relation to monetary costs and benefits associated with complying with VAT laws. While the ultimate aim of the VAT Diagnostic Tool is not country ranking, it is nevertheless helpful from the big picture perspective to compute the *DT* and *DTI* values of the four GCC country under study for the purposes of comparative analysis. Using equations (1) and (2) and information provided in Tables 3 to 6, these values are as follows.

**Table 7: VAT Compliance Burdens in GCC Countries, 2022**

	<b>Factor A</b>	<b>Factor B</b>	<b>Factor C</b>	<b>Factor D</b>	<b><i>DT</i></b>	<b><i>DTI</i></b>
<b>Saudi Arabia</b>	13	18	18	5	15.20	4.08
<b>UAE</b>	17	21	17	5	17.12	4.88
<b>Bahrain</b>	15	21	17	5	16.54	4.64
<b>Oman</b>	14	22	18	5	16.86	4.77

Sources: Authors' calculations and Tables 3 to 6.

Table 7 indicates that GCC countries belong to the group with medium VAT tax compliance burden (*DTI* values range from 4 to less than 5). As expected from the previous examination of the four factors, Saudi Arabia currently has the lowest VAT compliance burden within the GCC. It is followed by Bahrain and Oman, while UAE has the highest VAT compliance burden.

Keeping Table 7 in mind and applying equations (1) and (2) to the FTA data available from Evans et al. (2020), it is possible to obtain a ranking of VAT compliance burden in GCC and FTA countries. The results are summarised in Table 8. Note that there is a trivial variation in the FTA country rankings between Table 8 and Evans et al. (2020) due to the use of different methods of aggregation (arithmetic mean in the present article and geometric mean in Evans et al., 2020).

**Table 8: VAT Compliance Burden Grouping, FTA and GCC Countries\***

VAT Compliance Burden Grouping based on <i>DTI</i>	Countries
Very low (less than 3)	Singapore
Low (3 to less than 4)	Costa Rica, New Zealand, Australia, South Africa, Denmark, Norway
Medium (4 to less than 5)	Saudi Arabia, Japan, Sweden, Canada, Ireland, Estonia, Russian Federation, Bahrain, Lithuania, Oman, Slovenia, Netherlands, Chile, Germany, UAE, Indonesia, Iceland, Switzerland, Austria
High (5 to less than 6)	Peru, Korea, Finland, Latvia, China, UK, India, Portugal, Czech Republic, Israel, Italy, Argentina, Poland, Slovakia, Kenya, Colombia, Spain
Very high (6 or more)	Hungary, Mexico, Greece, France, Brazil, Luxembourg, Turkey, Belgium

Sources: Authors' calculations based on primary data collected and secondary data from Evans et al. (2020).

\* The GCC survey pertained to the 2022 tax year while the FTA survey related to the 2017 fiscal year.

While belonging to the medium group of VAT compliance burden countries, all GCC countries ranked well above the average of the combined set of countries. For example, Saudi Arabia ranked 8th overall in the combined set of 51 countries. Even UAE, identified as the most VAT compliance burdensome country within the GCC, was respectably located at the 21st position overall. It suggests that GCC businesses face a relatively lower VAT compliance burden than their counterparts in FTA jurisdictions. This is encouraging for GCC countries from the VAT simplicity perspective, although it is not yet clear how the GCC's good performance to date can be maintained over future years. This also naturally leads to the question of policy implications of the study, which will be considered in the next section.

## 5.6 Policy recommendations

The above analysis reveals that Saudi Arabia, UAE, Bahrain and Oman have made a good start in their tax expansion especially with respect to the criterion of VAT simplicity. However, over the years, changes in VAT policy and administration adding to complexity may take place. In addition, some significant challenges may also lie ahead, for example, the potential increase in the number of VAT payers or pressures to change the VAT legislation. To maintain or improve the current rankings of GCC countries in terms of VAT compliance burden, the following policy recommendations are proposed.

First, at the broad tax policy level, there should be a conscious recognition of the importance of VAT simplicity by tax authorities in designing or amending VAT policy and legislation. VAT is known for its high compliance burden imposed on business taxpayers, so governmental efforts need to be made in keeping VAT compliance burden as small as practicable.

Secondly, the VAT Diagnostic Tool is a robust and proven instrument. It should be formally utilised by Kuwait and Qatar as a check list in designing their VAT policy and administration. It can also be used by Saudi Arabia, UAE, Bahrain and Oman for VAT simplification in the future. Specific areas that may require attention include the use of cash records by small business and VAT registration requirements (Factor A); the use of electronic invoices between businesses and staggered VAT payments for small businesses (Factor B); VAT refund (Factor C) and interest payment on delayed VAT refund (Factor D).

Thirdly, it is well known that frequent changes in tax law constitute a significant source of tax complexity. As a tax system becomes more mature, some vested interest or lobbying groups may emerge. Thus, the GCC governments should resist pressures from such groups for changing their VAT policy/legislation or administration. Changes to VAT policy and administration should be infrequent and founded in evidence-based analyses or arguments, keeping the Factors/indicators of the VAT Diagnostic Tool in mind.

Fourthly and finally, tax administration in GCC countries is still in its infancy. Developing modern, state-of-the-art practices and building staff capacities are critically important in delivering comprehensive taxpayer services and promoting VAT morale and compliance. In this regard, it is very beneficial for the revenue bodies to make efforts in building trust with taxpayers and thus developing a cooperative tax culture.

## 6. SUMMARY CONCLUSIONS

The article has provided a systematic assessment of the VAT compliance burden in four GCC countries using the VAT Diagnostic Tool approach. The study is motivated by the concern for a potentially high level of VAT compliance burden that may arise as a result of tax expansion reform in GCC countries. As discussed in the literature review, there are three categories of alternative measures of tax complexity, namely, measures of legal complexity, measures of effective complexity (for example, tax compliance costs) and composite complexity index (for example, diagnostic tools). The VAT Diagnostic Tool is chosen because it matches the aim of the study, it is a robust instrument capable of identifying the key drivers of VAT compliance burden, it has been successfully applied to the 47 FTA countries, and it is easily replicable to other countries.

To provide the background for the study, a brief review of the key features of the VAT laws in Saudi Arabia, UAE, Bahrain and Oman was presented. Subsequently, the article offered a transparent, step-by-step process (factors, indicators, weights, aggregation and rescaling) for implementing the VAT Diagnostic Tool in practice. The study utilised two sources of data: primary data collected from a questionnaire-based survey involving the four GCC countries, and secondary data available from a previous study involving the 47 FTA countries.

An examination of the primary data demonstrates that, within the GCC, Saudi Arabia performs the best in terms of Factor A (VAT policy complexity) and Factor B (VAT administration complexity). There is little country variation in terms of Factor C (revenue body capabilities), and no country variation with respect to Factor D (monetary benefits associated with the act of complying). Overall, Saudi Arabia is shown to have the lowest VAT compliance burden in the GCC. It is followed by

Bahrain and Oman, whereas the UAE currently has the highest VAT compliance burden in the region.

An investigation of the combined dataset reveals that, on average, the GCC countries are doing better than the FTA countries in terms of Factors A and B. However, they are doing slightly worse than the FTA countries in terms of Factor C while there is no material difference between the two groups of countries in terms of Factor D. These findings are considered to be plausible in view of the facts that VAT systems in GCC are immature and their tax administrations are not yet fully developed. Overall, the GCC countries belong to the medium group of VAT compliance burden. However, they compared very favourably with FTA countries in overall ranking. Saudi Arabia and UAE ranked 8th and 21st, respectively, in the combined set of 51 countries.

While the GCC countries have started their VAT reform well in terms of tax system complexity, many challenges still lie ahead. In order to maintain or improve their relatively good performance over time, some policy recommendations have been proposed. These include: (i) consciously recognising the importance of keeping VAT payers' burden compliance as small as possible; (ii) formally using the VAT Diagnostic Tool Factors/indicators as a guide for designing and simplifying VAT policy and legislation; (iii) resisting pressures from potential vested interest groups and lobbyists to make changes to VAT policy and administration, and (iv) developing the capabilities of revenue bodies and paying attention to human resource development in particular.

## 7. REFERENCES

- Abdellatif, M M, Eid, A G & Tran Nam, B 2017, 'Oil prices fluctuations and the need for tax policy reform in Qatar', *Bulletin for International Taxation*, vol. 71, no. 12, pp. 674-680.
- Borrego, A C, Lopes, C M M & Ferreira, C M S 2016, 'Tax complexity indices and their relation with tax noncompliance: Empirical evidence from the Portuguese tax professionals', *Review of Applied Management Studies*, vol. 14, no. 1, pp. 20-30.
- Brown, R & Sadiq, K 2023, 'A diagnostic tool for assessing the corporate income tax compliance burden: Pilot study findings', *eJournal of Tax Research*, vol. 20, no. 2, pp. 168-202.
- Budak, T & James, S 2016, 'The applicability of the OTS Complexity Index to comparative analysis between countries: Australia, New Zealand, Turkey, and the UK', *eJournal of Tax Research*, vol. 14, no. 2, pp. 426-454.
- Burton, H, Tran-Nam, B, Karlinsky, S & Deutsch, R 2021, 'Perceptions of large business tax law complexity in Australia', paper presented at the 14<sup>th</sup> International ATAX Tax Administration Conference, Sydney, 23-24 November.
- Davies, T, Carpenter, J & Iverson, G 2001, 'Issues in federal income tax complexity', *South Dakota Business Review*, vol. 59, no. 3, pp. 1, 4-11.
- Delghan, D, Abdellatif, M & Gomaa Abdel-Salam, A-S 2021, 'Assessing the potential impact of introducing value added tax on price levels in Qatar', *International VAT Monitor*, vol. 32, no. 5, pp. 247-253.
- Diewert, W E & Nakamura, A O (eds) 1993, *Essays in index number theory*, North Holland, Amsterdam.
- Evans, C 2008, 'Taxation compliance and administrative costs: An overview', in Lang, M, Obermair, C, Schuch, J, Staringer, C & Weninger, P (eds), *Tax compliance costs for companies in an enlarged European Community*, Kluwer Law International, Alphen aan den Rijn, pp. 447-468.

- Evans, C, Highfield, R, Tran-Nam, B & Walpole, M 2020, 'Diagnosing the VAT compliance burden: A cross-country assessment', *International VAT Monitor*, vol. 31, no. 2, pp. 84-93.
- Guglyuvatyy, E & Stoianoff, N P 2015, 'Applying the Delphi method as a research technique in tax law and policy', *Australian Taxation Forum*, vol. 30, no. 1, pp. 179-204.
- Highfield, R, Evans, C & Walpole, M 2019, 'The development and testing of a diagnostic tool for assessing VAT compliance costs: Pilot study findings', *eJournal of Tax Research*, vol. 16, no. 3, pp. 620-654.
- International Monetary Fund (IMF) 2022a, 'Oman: 2022 Article IV Consultation – Press Release; and Staff Report', Country Report No. 22/343, IMF, Washington, DC.
- International Monetary Fund (IMF) 2022b, 'Qatar: 2022 Article IV Consultation – Press Release; and Staff Report', Country Report No. 22/175, IMF, Washington, DC.
- International Monetary Fund (IMF) 2022c, 'Saudi Arabia: 2022 Article IV Consultation – Press Release; and Staff Report', Country Report No. 22/274, IMF, Washington, DC.
- International Monetary Fund (IMF) 2022d, 'UAE, United Arab Emirates: 2021 Article IV Consultation – Press Release; and Staff Report', Country Report No. 2022/050, IMF, Washington, DC.
- Kotlán, I & Machová, Z 2012, 'World Tax Index: Methodology and data', *DANUBE: Law and Economics Review*, vol. 3, no. 2, pp. 19-33.
- Office of Tax Simplification (OTS) 2017, 'The OTS Complexity Index', [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/603479/OTS\\_complexity\\_index\\_paper\\_2017.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/603479/OTS_complexity_index_paper_2017.pdf) (accessed 28 April 2023).
- O'Neil, C J, Samelson, D P & Harkness, M 1997, 'Simplification of Schedule C for sole proprietorships: Results from a survey of tax practitioners', *Journal of the American Taxation Association*, vol. 19, no. 1, pp. 19-37.
- Organisation for Economic Co-operation and Development (OECD) 2008, *Handbook on constructing composite indicators: Methodology and user guide*, OECD Publications, Paris, <https://www.oecd.org/sdd/42495745.pdf> (accessed 12 April 2023).
- PricewaterhouseCoopers (PwC) & World Bank 2019, *Paying taxes 2020: The changing landscape of tax policy and administration across 190 economies*, <https://www.pwc.com/gx/en/services/tax/publications/paying-taxes-2020.html> (accessed 28 April 2023).
- Ramboll Management Consulting, The Evaluation Partnership and Europe Economic Research for the European Commission 2013, 'A review and evaluation of methodologies to calculate tax compliance costs', Taxation Papers Working Paper No. 40-2013, Brussels.
- Richardson, G & Smith, D 2002, 'The readability of Australia's goods and services tax legislation: An empirical investigation', *Federal Law Review*, vol. 30, no. 3, pp. 475-506.
- Sandford C, Godwin, M & Hardwick, P 1989, *Administrative and compliance costs of taxation*, Fiscal Publications, Bath.
- Schenk, A, Thuronyi, V & Cui, W 2015, *Value added tax: A comparative approach*, 2nd edn, Cambridge University Press, Cambridge.
- Slemrod, J 2005, 'The etiology of tax complexity: Evidence from US state income tax systems', *Public Finance Review*, vol. 33, no. 3, pp. 279-299.
- Stiglitz, J E 2000, *Economics of the public sector*, 3rd edn, W W Norton, New York.

- Schwab, K, Porter, M E & Lopez-Claros, A 2006, *The global competitiveness report 2005-2006*, Palgrave Macmillan for the World Economic Forum, London.
- Tan, L M & Tower, G 1992, 'The readability of tax laws: An empirical study in New Zealand', *Australian Tax Forum*, vol. 9, no. 3, pp. 355-372.
- Tran-Nam, B 1999, 'Tax reform and tax simplification: Some conceptual issues and a preliminary assessment', *Sydney Law Review*, vol. 21, no. 3, pp. 500-522.
- Tran-Nam, B & Evans, C 2014, 'Towards the development of a tax system complexity index', *Fiscal Studies*, vol. 35, no. 3, pp. 341-370.
- Tran-Nam, B, Highfield, R, Evans, C & Walpole, M 2021, 'Evaluating the tax compliance burden: Developments in research methodology and empirical application', paper presented at the 14<sup>th</sup> International ATAX Tax Administration Conference, Sydney, 23-24 November.
- Transparency International 2022, *Corruption perceptions index 2022*, <https://www.transparency.org/en/cpi/2022> (accessed 28 April 2023).
- United Nations Development Programme (UNDP) 2023, 'Human development index (HDI)', <http://hdr.undp.org/en/content/human-development-index-hdi> (accessed 28 April 2023).
- Weinstein, P, Jr 2014, 'The State Tax Complexity Index: A new tool for tax reform and simplification', Progressive Policy Institute Policy Memo, [http://www.progressivepolicy.org/wp-content/uploads/2014/04/2014.04-Weinstein\\_The-State-Tax-Complexity-Index\\_A-New-Tool-For-Tax-Reform-and-Simplification1.pdf](http://www.progressivepolicy.org/wp-content/uploads/2014/04/2014.04-Weinstein_The-State-Tax-Complexity-Index_A-New-Tool-For-Tax-Reform-and-Simplification1.pdf) (accessed 29 April 2023).
- World Bank 2021, 'World Bank Group to discontinue Doing Business report', statement, 16 September, <https://www.worldbank.org/en/news/statement/2021/09/16/world-bank-group-to-discontinue-doing-business-report> (accessed 28 April 2023).
- World Bank 2023, 'Enterprise Surveys: What businesses experience', <https://www.enterprisesurveys.org/en/enterprisesurveys> (accessed 28 April 2023).
- Zu, Y, Evans, C & Krever, R 2020, 'The VAT compliance burden in the UK: A comparative assessment', *British Tax Review*, vol. 2020, no. 3, pp. 354-377.

**APPENDIX 1: VAT DIAGNOSTIC TOOL QUESTIONNAIRE**

(Record a single score for each indicator as it relates to the country's VAT for the 2022 year)

**A. Tax Law Complexity and Burden Resulting from Core Elements of VAT Policy**

Compliance burden indicators	Relevant score
<p><b>The VAT rate structure:</b></p> <ol style="list-style-type: none"> <li>1. No reduced rates apply.</li> <li>2. One reduced rate applies.</li> <li>3. Two reduced rates apply.</li> <li>4. Three or more reduced rates apply.</li> </ol> <p>NB: Reduced rates include 'zero-rated' goods and services, exclusive of exports.</p>	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<p><b>The scale (i.e., revenue impact) of reduced rates and exemptions:</b></p> <ol style="list-style-type: none"> <li>1. The revenue impact of reduced rates and exemptions is nil or low (i.e., &lt; 10% of the estimated VAT base).</li> <li>2. The revenue impact of reduced rates and exemptions is medium (i.e., 10–19% of the estimated VAT base).</li> <li>3. The revenue impact of reduced rates and exemptions is high (i.e., 20–29% of the estimated VAT base).</li> <li>4. The revenue impact of reduced rates and exemptions is very high (i.e., 30% or more of the estimated VAT base).</li> </ol> <p>NB: Reduced rates include 'zero-rated' goods and services, exclusive of exports.</p>	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<p><b>Use of cash records by specified small businesses (*) to calculate VAT liabilities:</b></p> <ol style="list-style-type: none"> <li>1. 50% or more of small businesses required to pay VAT use the "cash basis of accounting" for calculating VAT liabilities.</li> <li>2. Between 25–49% of small businesses required to pay VAT use the "cash basis of accounting" for calculating VAT liabilities.</li> <li>3. Less than 25% of small businesses required to pay VAT use the "cash basis of accounting" for calculating VAT liabilities.</li> <li>4. Use of the "cash basis of accounting" is generally not permitted.</li> </ol> <p>(*) Guidance for interpreting the term 'small businesses' is at the end of this form.</p>	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<p><b>Use of rules for prescribed industries that simplify calculations of VAT liabilities:</b></p> <ol style="list-style-type: none"> <li>1. Over 50% of VAT taxpayers use simplified rules that are available for taxpayers in prescribed industries to calculate their VAT liabilities</li> <li>2. Between 25–50% of VAT taxpayers use simplified rules that are available for taxpayers in prescribed industries to calculate their VAT liabilities.</li> <li>3. Less than 25% of VAT taxpayers use simplified rules that are available for taxpayers in prescribed industries to calculate their VAT liabilities.</li> <li>4. There are no simplified rules for taxpayers in any prescribed industries.</li> </ol>	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<p><b>VAT registration:</b></p> <ol style="list-style-type: none"> <li>1. Less than 30% of the business taxpayer population is registered for VAT purposes.</li> <li>2. 30–39% of the business taxpayer population is registered for VAT purposes.</li> <li>3. 40–49% of the business taxpayer population is registered for VAT purposes.</li> <li>4. 50–59% of the business taxpayer population is registered for VAT purposes.</li> <li>5. 60–69% of the business taxpayer population is registered for VAT purposes.</li> </ol>	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

6. 70–79% of the business taxpayer population is registered for VAT purposes.	<input type="checkbox"/> 5
7. 80–89% of the business taxpayer population is registered for VAT purposes.	<input type="checkbox"/> 6
8. 90% or more of the business taxpayer population is registered for VAT purposes	<input type="checkbox"/> 6
<b>Optionality (i.e., the availability of optional regimes to small businesses) (*):</b>	<input type="checkbox"/> 1
1. There are no optional regimes generally available to small businesses.	<input type="checkbox"/> 2
2. There is only one optional regime generally available to small businesses.	<input type="checkbox"/> 3
3. There are two optional regimes generally available to small businesses.	<input type="checkbox"/> 4
4. There are three or more optional regimes generally available to small businesses.	<input type="checkbox"/> 4
(*) Guidance for assessing the rating for this indicator is provided at the end of this form.	
<b>COMMENTS</b> (if you wish to elaborate on any responses/ratings please do so in this part)	

### B. Number and Frequency of Administrative Requirements to Comply

Compliance burden indicators	Relevant score
<b>Electronic VAT registration:</b>	<input type="checkbox"/> 1
1. Businesses can register electronically: 50% or more use this method	<input type="checkbox"/> 2
2. Businesses can register electronically: 25-49% use this method	<input type="checkbox"/> 3
3. Businesses can register electronically: < 25% use this method	<input type="checkbox"/> 4
4. Businesses required to register must file applications on paper and/or attend a tax office in person.	<input type="checkbox"/> 4
<b>Staggered VAT payment periods for small businesses:</b>	<input type="checkbox"/> 1
1. Small businesses generally need only pay their VAT liabilities quarterly or less frequently.	<input type="checkbox"/> 2
2. Small businesses generally need only pay their VAT liabilities bi-monthly.	<input type="checkbox"/> 3
3. Most small businesses are generally required to pay VAT liabilities monthly.	<input type="checkbox"/> 3
<b>Staggered return filing periods for small businesses:</b>	<input type="checkbox"/> 1
1. Small businesses generally need only file VAT returns quarterly or less frequently.	<input type="checkbox"/> 2
2. Small businesses generally need only file VAT returns bi-monthly.	<input type="checkbox"/> 3
3. Most small businesses are generally required to file VAT returns monthly.	<input type="checkbox"/> 3
<b>Information requirements of a typical VAT return</b>	<input type="checkbox"/> 1
1. Tax returns require minimal data to be provided, with less than 10 boxes or fields (other than fortaxpayer identification) typically to be completed.	<input type="checkbox"/> 2
2. Tax returns require a moderate amount of data, with 11-20 boxes or fields typically to be completed.	<input type="checkbox"/> 3
3. Tax returns require a significant amount of data to be provided, with 21-30 boxes or fields typically to be completed.	<input type="checkbox"/> 4
4. Tax returns require a very large amount of data, with over 30 boxes or fields typically to be completed.	<input type="checkbox"/> 4



Compliance burden indicators	Relevant score
<p><b>Documentation requirements for exported goods and services</b></p> <ol style="list-style-type: none"> <li>1. There are no additional documentation requirements in respect of exported goods and services to be provided to the tax authorities as part of return filing obligations.</li> <li>2. There are additional documentation requirements in respect of exported goods and services to be provided to the tax authorities as part of return filing obligations that impact less than 10% of registered taxpayers.</li> <li>3. There are additional documentation requirements in respect of exported goods and services to be provided to the tax authorities as part of return filing obligations that impact between 10-19% of registered taxpayers.</li> <li>4. There are additional documentation requirements in respect of exported goods and services to be provided to the tax authorities as part of return filing obligations that impact 20% or more of registered taxpayers.</li> </ol>	<input type="checkbox"/> <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<p><b>Other reporting requirements (in addition to the VAT return (e.g., statistical data))</b></p> <ol style="list-style-type: none"> <li>1. There are no reporting requirements additional to the periodic VAT return</li> <li>2. There are reporting requirements in addition to the periodic VAT return — completed on an annual basis.</li> <li>3. There are reporting requirements in addition to the periodic VAT return — completed every 4-6 months.</li> <li>4. There are reporting requirements in addition to the periodic VAT return — completed at least every 3 months or more frequently.</li> </ol>	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<p><b>The use of electronic invoices between businesses</b></p> <ol style="list-style-type: none"> <li>1. Legislation permits use of e-invoicing between businesses and 50% or more of invoices are estimated to be prepared in this way.</li> <li>2. Legislation permits use of e-invoicing between businesses and 25 to 49% of invoices are estimated to be prepared in this way.</li> <li>3. Legislation permits use of e-invoicing between businesses and less than 25% of invoices are estimated to be prepared in this way.</li> <li>4. Legislation does not permit use of e-invoicing between businesses.</li> </ol>	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<p><b>Provision of copies of VAT invoices to the revenue body</b></p> <ol style="list-style-type: none"> <li>1. Except for specific requests (e.g., re audits), copies of invoices do not need to be provided to the revenue body as a general rule.</li> <li>2. Less than 50% of businesses are required to supply invoices to the revenue body.</li> <li>3. 50% or more of businesses are required to supply invoices to the revenue body.</li> </ol>	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3
<p><b>Record retention periods:</b></p> <ol style="list-style-type: none"> <li>1. Records must be retained by taxpayers for up to 4 years.</li> <li>2. Records must be retained by taxpayers for between 4 and 8 years.</li> <li>3. Records must be retained by taxpayers for 8 years or more.</li> </ol>	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3
<p><b>The number of VAT verification actions (*):</b></p> <ol style="list-style-type: none"> <li>1. The overall number of VAT verifications actions each year is generally less than 5% of the registered VAT payer population.</li> </ol>	<input type="checkbox"/> 1 <input type="checkbox"/> 2

<p>2. The overall number of VAT verification actions each year is generally between 5-10% of the registered VAT payer population.</p> <p>3. The overall number of VAT verification actions each year is generally over 10% of the registered VAT payer population.</p> <p>(*) “Verification actions” include all types of actions taken by revenue bodies to verify taxpayers’ reported liabilities (e.g., document verification requests, audits, investigations, and written and phone inquiries).</p>	<input type="checkbox"/> 3
<p><b>The level of disputed VAT assessments</b></p> <p>1. The no. of VAT assessments disputed each year is &lt; 5% of the no. of VAT verifications</p> <p>2. The no. of VAT assessments disputed each year is 5-10% of the no. of VAT verifications.</p> <p>3. The no. VAT assessments disputed each year is over 10% of the no. of VAT verifications.</p>	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3
<p><b>COMMENTS</b> (if you wish to elaborate on any responses/ratings please do so in this part)</p>	

### C. Revenue Body Capabilities in Meeting Taxpayers’ Service and Compliance Needs

Compliance Burden Indicators	Relevant score
<p><b>The revenue body’s website (*)</b></p> <p>1. The revenue body’s website has a very comprehensive range of VAT information on taxpayers’ VAT obligations.</p> <p>2. The revenue body’s website has reasonably comprehensive range of information on taxpayers’ VAT obligations.</p> <p>3. The revenue body’s website offers very little or no information on taxpayers’ VAT obligations.</p> <p>(*) Guidance for assessing the rating for this indicator is provided at the end of this form.</p>	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3
<p><b>The revenue body’s phone enquiry services (*)</b></p> <p>1. The revenue body provides a dedicated phone enquiry service — phone response times and the standard of advice and service are generally of a high standard.</p> <p>2. The revenue body provides a dedicated phone enquiry service — phone response times and the standard of advice and service are generally of a reasonable standard</p> <p>3. The revenue body provides a dedicated phone enquiry service — phone response times and the standard of advice and service are generally of an unsatisfactory standard.</p> <p>4. The revenue body does not provide a dedicated call centre enquiry service.</p> <p>(*) Guidance for assessing the rating for this indicator is provided at the end of this form.</p>	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<p><b>Support for newly registered businesses (*)</b></p> <p>1. The revenue body’s range of VAT-related services targeted at newly registered businesses are of a high standard.</p>	<input type="checkbox"/> 1 <input type="checkbox"/> 2

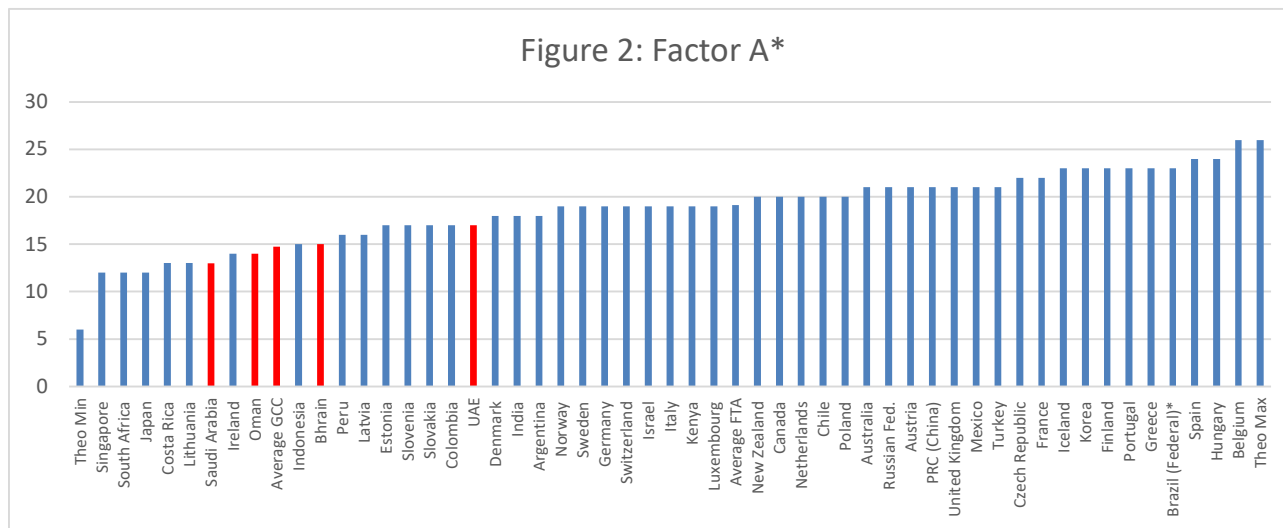
2. The revenue body's range of VAT-related services targeted at newly registered businesses are of areasonable standard.	<input type="checkbox"/> 3
3. The revenue body's range of VAT-related services targeted at newly registered businesses are of a poor standard.	<input type="checkbox"/> 4
4. The revenue body does not provide any unique VAT-related services dealing with VAT targeted at newly registered businesses.	
(*) Guidance for assessing the rating for this indicator is provided at the end of this form.	
<b>The revenue body's online VAT payment facilities:</b>	<input type="checkbox"/> 1
1. 75% or more of VAT payments received from taxpayers are made using online (i.e., Internet-based) payment facilities.	<input type="checkbox"/> 2
2. Between 50-74% of VAT payments received from taxpayers are made using online (i.e., Internet-based) payment facilities.	<input type="checkbox"/> 3
3. Between 25-49% of VAT payments received from taxpayers are made using online (i.e., Internet-based) payment facilities.	<input type="checkbox"/> 4
4. Less than 25% of VAT payments received from taxpayers are made using online (i.e., Internet-based) payment facilities, or there is no such capability.	
<b>The revenue body's online VAT return filing service</b>	<input type="checkbox"/> 1
1. 75% or more of taxpayers use online filing facilities for submitting returns.	<input type="checkbox"/> 2
2. Between 50-74% of taxpayers use online filing facilities for submitting returns.	<input type="checkbox"/> 3
3. Between 25-49% of taxpayers use online filing facilities for submitting returns.	<input type="checkbox"/> 4
4. Less than 25% of taxpayers use online filing facilities for submitting returns <u>or</u> there is no such service	
<b>Quality of the revenue body's online transaction services (e.g., return filing) (*)</b>	<input type="checkbox"/> 1
1. The revenue body's online transaction services are of a very high standard	<input type="checkbox"/> 2
2. The revenue body's online transaction services are of a high standard	<input type="checkbox"/> 3
3. The revenue body's online transaction services are of a medium standard	<input type="checkbox"/> 4
4. The revenue body's online transaction services are of a low standard	
(*) Guidance for assessing the rating for this indicator is provided at the end of this form.	
<b>The revenue body's refunding of excess VAT payments:</b>	<input type="checkbox"/> 1
1. 90% of refund claims are paid with 1 month of receipt.	<input type="checkbox"/> 2
2. 90% of refund claims are paid within 2 months of receipt.	<input type="checkbox"/> 3
3. 90% of refund claims are paid within 3 months of receipt.	<input type="checkbox"/> 4
4. More than 3 months are required to pay 90% of refund claims.	
<b>The revenue body's private rulings service:</b>	<input type="checkbox"/> 1
1. Rulings are generally provided within one month of being requested.	<input type="checkbox"/> 2
2. Rulings are generally provided within two months of being requested.	<input type="checkbox"/> 3
3. Rulings generally take longer than two months to be provided.	
<b>COMMENTS</b> ((if you wish to elaborate on any responses/ratings please do so in this part)	

**D. Monetary Costs/Benefits Associated with the Act of Complying**

Compliance Burden Indicators	Relevant score
<p><b>The payment of interest on delayed refunds:</b></p> <ol style="list-style-type: none"> <li>1. Interest is paid on excess VAT credits unpaid after one month or more.</li> <li>2. Interest is paid on excess VAT credits after two months or more.</li> <li>3. Interest is only paid on excess VAT credits after three months or more</li> <li>4. Interest is <u>not</u> generally paid on excess VAT credits.</li> </ol>	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<p><b>The aggregate value of annual VAT refunds:</b></p> <ol style="list-style-type: none"> <li>1. The value of VAT refunds annually is less than 10% of annual gross VAT collections.</li> <li>2. The value of VAT refunds annually is between 10-19% of annual gross VAT</li> <li>3. The value of VAT refunds annually is between 20-29% of annual gross VAT</li> <li>4. The value of VAT refunds annually is between 30-39% of annual gross VAT</li> <li>5. The value of VAT refunds annually is 40% or more of annual gross VAT collections.</li> </ol>	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
<p><b>COMMENTS</b> (if you wish to elaborate on any responses/ratings please do so in this part)</p>	

**APPENDIX 2: FIGURES 2-5**

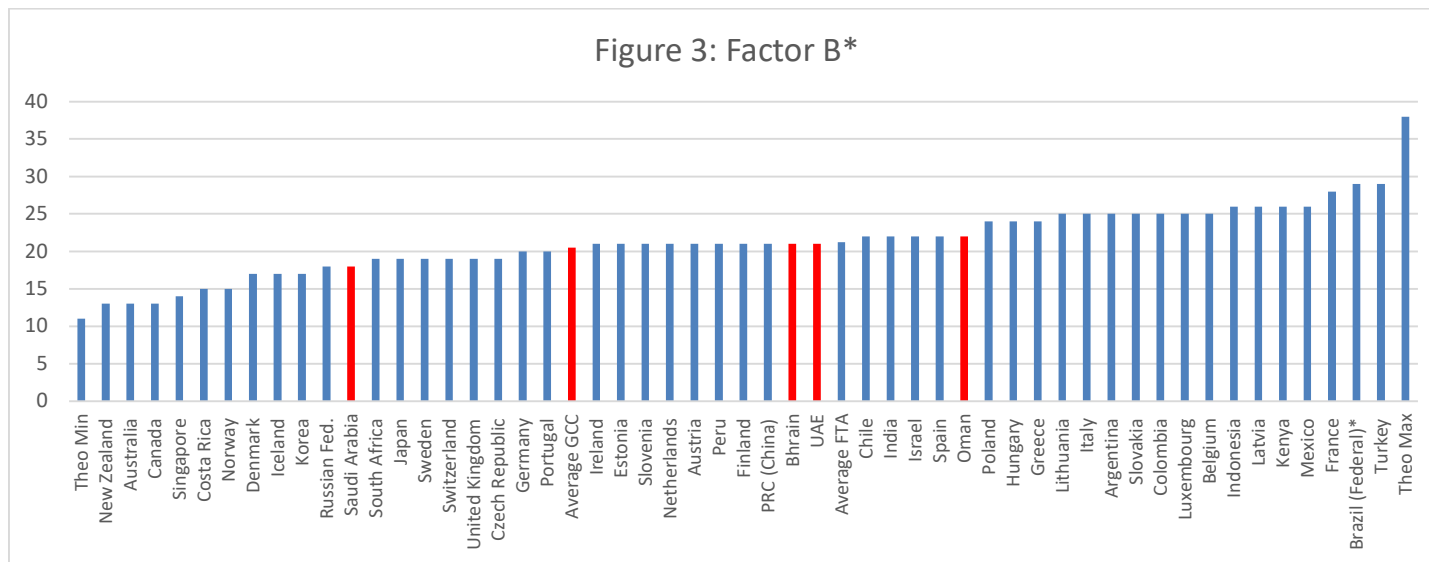
**Fig. 2: Factor A**



Sources: Authors' calculations based on primary data collected and secondary data from Evans et al. (2020).

\* The GCC survey pertained to the 2022 tax year while the FTA survey related to the 2017 fiscal year.

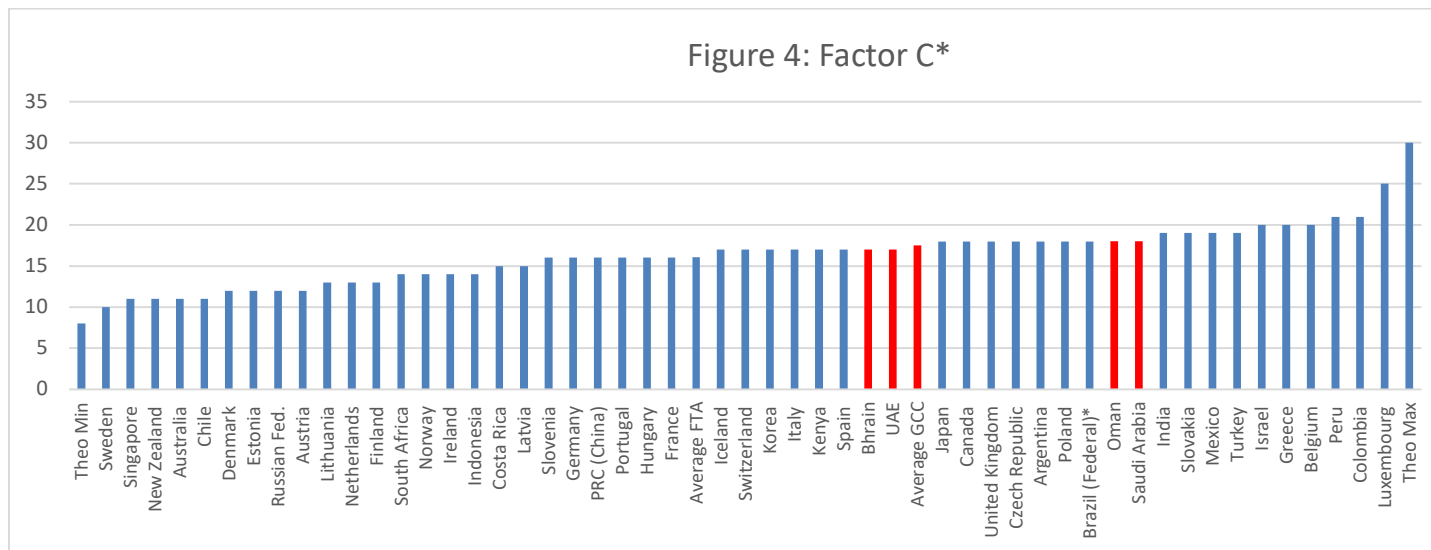
**Fig. 3: Factor B**



Sources: Authors' calculations based on primary data collected and secondary data from Evans et al. (2020).

\* The GCC survey pertained to the 2022 tax year while the FTA survey related to the 2017 fiscal year.

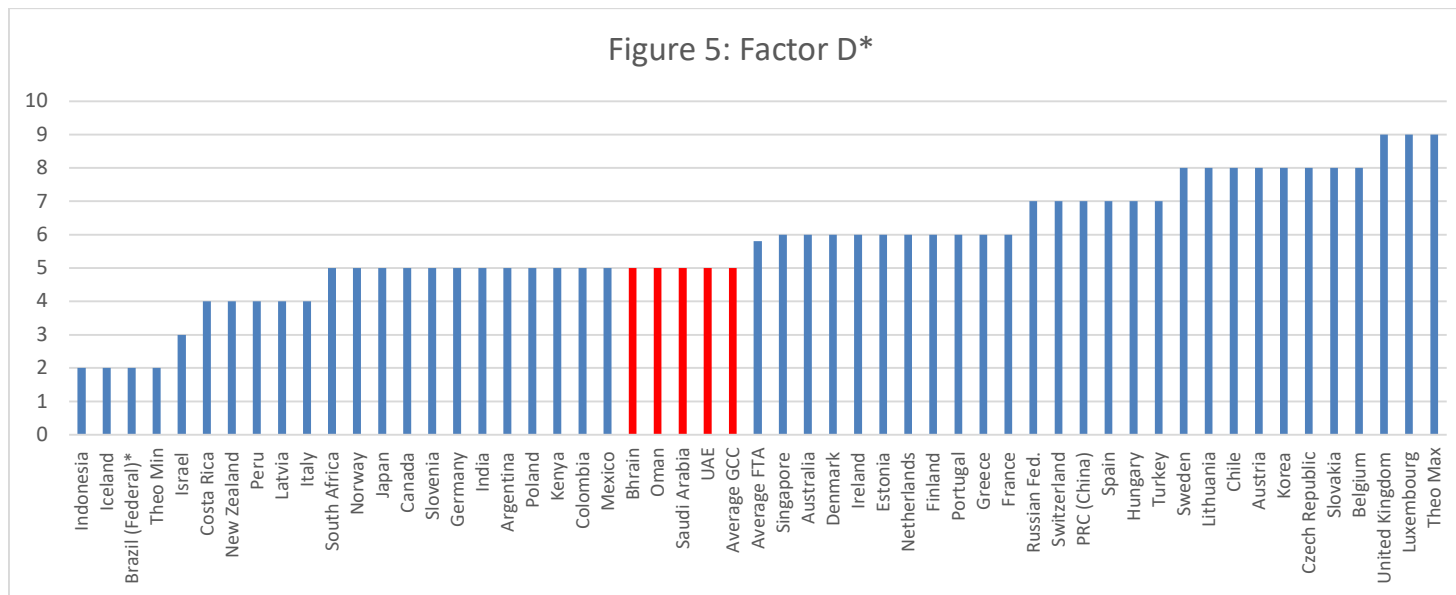
**Fig. 4: Factor C**



Sources: Authors' calculations based on primary data collected and secondary data from Evans et al. (2020).

\* The GCC survey pertained to the 2022 tax year while the FTA survey related to the 2017 fiscal year.

**Fig. 5: Factor D**



Sources: Authors' calculations based on primary data collected and secondary data from Evans et al. (2020).

\* The GCC survey pertained to the 2022 tax year while the FTA survey related to the 2017 fiscal year.