DOES A VALUE-ADDED TAX RATE INCREASE INFLUENCE COMPANY PROFITABILITY? AN EMPIRICAL STUDY IN THE SAUDI STOCK MARKET

MAHFOUDH HUSSEIN MGAMMAL*

ABSTRACT

This study aims to estimate the consequences of a value-added tax ('VAT') rate increase on the profitability of the Kingdom of Saudi Arabia ('KSA') non-financial companies. Using statistical empirical approaches such as Ordinary Least Squares, Wilcoxon-signed-rank test and Difference-in-Differences, the analysis targets data before and after the VAT rate increase as well as the discovery of COVID-19. The findings support the hypothesis that after-VAT rate increase firms are, on average, less profitable. The imposed 10% VAT rate increase has caused, on average, a -2.16% decrease in profitability of Saudi firms. The results explore the notion that government debt negatively influenced firm profitability in 2020 which means that will affect Saudi companies' growth in the long term. This paper recommends implementing some VAT incentives in the tax system and conducting further studies on VAT incentives efficiency using data in the long term.

Keywords: value-added tax, taxation, total assets, shareholders' equity, profitability

* Accounting Department, College of Business, Jouf University. Correspondence via email at mrrsr77@yahoo.com.

I INTRODUCTION

According to the World Bank,[1] in reply to COVID-19, the Saudi Arabian government has introduced financial stability and company sector aid measures, including measures to support lending to Small-Medium Enterprises. Growth in many oil-exporting countries will be severely constrained by further political restrictions in relation to oil production. In Saudi Arabia and other Gulf Co-Operation Council ('GCC') economies, lower oil prices, heightened ambiguity related to further possible spikes in COVID-19, and household-wide effects of primary budget adjustments (such as a value-added tax ('VAT') rise, wage restrictions) should significantly impact non-oil activities.

Sixty years back, the VAT was only rarely taught of in some professional texts and external to France. VAT, a wide base tax on expenditure, is new and one of the utmost significant foundations of revenue for governments.[2] Since its introduction in over 170 nations, VAT has generally increased 20% or more of all tax income. Broadly implemented in sub-Saharan Africa and the Middle East, among others, implementation of a VAT has been the cornerstone of tax improvement in numerous developing nations.[3]

In Saudi Arabia, the authority responsible for taxation is the General Authority of Zakat and Tax, which has the following functions to: collect taxes from taxpayers in accordance with the applicable laws, rules and regulations; offer high-quality services to taxpayers in order for them to meet their obligations; follow-up on taxpayers to ensure the collection of tax claims; educate taxpayers; and, exchange information with regional and international organisations and specialised institutions[4]. In this context, it has been said that numerous developing countries with limited tax capability have switched to VAT, and the optimality of this reform relies on the efficacy of VAT collection. In the Kingdom of Saudi Arabia ('KSA'), the General Authority of Zakat and Tax, in 2017, argued that the development of the tax system will support the KSA to convert and become further companionable with the global system. The VAT was officially introduced on 1 January 2018 with an average rate of 5%.[5] The KSA introduced VAT to decrease its dependency on oil reserves. Recently, due to the effects of the COVID-19 pandemic in the world, the KSA — as one country to have adopted some economic reforms to reduce these COVID-19 consequences — increased its VAT from 5% to 15%on 1 July 2020. For clarity, the 5% VAT is a standard rate, with the 15% VAT rate introduced and applicable to all other

1 World Bank, 'Global Economic Prospects, June 2020' (Report, June 2020).

2 See Bibek Adhikari, 'Does a Value-Added Tax Increase Economic Efficiency?' (2020) 58(1) *Economic Inquiry* 496–517.

3 See Michael Keen and Ben Lockwood, 'The Value Added Tax: Its Causes and Consequences' (2010) 92(2) *Journal of Development Economics* 138–151.

4 General Authority of Zakat and Tax, 'ZATCA's Role' (2021) <https://zatca.gov.sa/en/AboutUs/Pages/default.aspx#:~:text=%E2%80%8B%E2%80%8BZATCA's%20role,comply%20and%20fulfill%20their%20obligations>.

5 General Authority of Zakat and Tax, 'Value Added Tax' (2021) <https://gazt.gov.sa/en/RulesRegulations/VAT/Pages/default.aspx>.

taxable activities.[6] Accordingly this study aims to examine the effects of this VAT rate increase.

VAT is oftentimes defined as a regressive tax since it taxes consumption and the set to consume tends to reduce as income increases.[7] Other tax frameworks have numerous issues and in some countries, a VAT might be introduced to lessen another ineffective implicit tax — for example, stamp duties, excise taxes and tariffs — or to marginally diminish explicit taxes — for example, the corporate revenue tax rate and individual revenue tax rate. However, these progressions are slight when contrasted with the substitution of sales taxes by VAT.[8] In the KSA and hand-in-hand with its 2030 vision, this type of approach gives the government adaptability and therefore it does not have to rely so heavily on oil income alone. Similarly, it turns out to be less of a burden for the end consumer since it is the first type of tax framework presented in the KSA.

Recently, Alhussain[9] studied the influence of the VAT implementation on Saudi banks. The study revealed a small decrease in overall liabilities, overall assets, current accounts and customer deposits. Furthermore, there was an important reduction in retained earnings and total operating expenses following the implementation of the 5% VAT. There was also small growth in overall income and an important rise in net operating revenue.

Moreover, there are no statistically important differences with other variables under the study, except reserved profits after and before the implementation of the 5% VAT. The present research question in this paper explores what the situation is after imposing a 15% VAT on non-financial[10] Saudi listed companies. Relevantly, there is another study conducted by Bogari[11] which examined the social and economic impact of the implementation of the 5% VAT in the KSA. The results of that study indicate that the implementation of the 5% VAT raises the country's financial resources. Also, Bogari found an undesirable social influence and several other challenges. It recommended a need to redesign the nature of the execution of the on-VAT rules of determining the tax base in the 'General Guidelines of VAT' via developing the proficiency and viability of workers in the General Authority of Zakat and Tax, and streamlining tax systems until the beneficial outcomes on the financial and social side bounce back.

---

6 General Authority of Zakat and Tax, 'VAT Law' (2021) <https://zatca.gov.sa/ar/RulesRegulations/Taxes/Documents/SaudiVATlaw-bilingual%20(Logo)%2001%20copy.pdf>.

7 Masayuki Tamaoka, 'The Regressivity of a Value Added Tax: Tax Credit Method and Subtraction Method—A Japanese Case' (1994) 15(2) *Fiscal Studies* 57–73.

8 Adhikari (n 2).

9 Meshari Alhussain, 'The Impact of Value-Added Tax (VAT) Implementation on Saudi Banks' (2020) 12(1) *Journal of Accounting and Taxation* 12–27.

10 The designation of non-financial firms means that they are primarily involved in the production of non-financial goods and services: Organisation for Economic Co-Operation and Development ('OECD'), 'Understanding Financial Accounts' (Report, 2017).

11 Adel Bogari, 'The Economic and Social Impact of the Adoption of Value-Added Tax in Saudi Arabia' (2020) 4(2) *International Journal of Economics, Business and Accounting Research* 62–74.

According to the Organisation for Economic Co-Operation and Development ('OECD') study entitled 'Consumption Tax Trends 2020', the VAT accounts for more than 20% of total tax revenue in OECD countries. Moreover, recent outcomes noted within another study conducted by the OECD under a Taxation Working Paper prepared by Thomas[12] and entitled 'Reassessing the Regressivity of the VAT' indicates that a roughly proportional VAT can still have significant equity inferences for poor people, possibly resulting in several families entering poverty. This highlights the importance of confirming the progressivity of the tax-benefit system to offset poor families for the cost in buying power from repaying VAT.

In relation to the COVID-19 crisis, the results of these OECD studies suggest that there may be scope in many countries for VAT reform to address revenue requirements. Notwithstanding that in many countries the regular VAT rates is high, OECD evidence displays that possibility exists to extend VAT. However, any VAT increases, including VAT base expansion that influences the poor, should be accompanied with compensation for poorer families, for example benefit payments or targeted tax credits.[13] This provides further motivation for conducting this study in order to discover the influence of imposing the new VAT of 15% on non-financial Saudi listed companies.

We address abovementioned issues in the case of the KSA's economy. Nowadays, the government has introduced wide economic developments intended to decrease the Kingdom's dependence on oil income. The government applied a main reform and economic program called the 2030 Saudi Vision, which aims to revoke the country out of its reliance on oil income while differentiating its economy. This vision is specifically based on a transition from growth to non-oil activities and the private sector. It persists to work for constructing a helpful environment for competitiveness and business investment. While simultaneously assisting the combination of its economy into the new universal economy. Since there was no VAT in KSA before 1 January 2018, its participation in international trade pushes it to apply numerous fundamental policies in order to vary its economic resources. Therefore, the KSA implemented a 5% VAT on goods and services as of 1 January 2018, and due COVID-19 the Kingdom on 1 July 2020 increase the VAT from 5% to 15%.

The consequence of Saudi Arabia's weighty dependence on the oil income is that its income subsidises to more than 50.4% of its GDP. Inasmuch the Saudi economy is a mono exporter economy founded mostly on oil, any important deterioration in prices of oil will affect the economy of the KSA. The Kingdom's foreign trade ('FT') reliance on oil returns accounts for 72% of the nation's entire exports and closely 70% of regime income. Subsequently, these incomes are gathered by the public governance which rises public spending and results in numerous influences on macro-economic collections. Therefore, some studies display that the VAT is influenced by actual variables such as total income

[12] Alastair Thomas, 'Reassessing the Regressivity of the VAT' (Working Paper, OECD Publishing, 2020).

[13] Ibid.

and government debt variables. Hence, it is interesting to evaluate the effect of imposing the new VAT on Saudi listed companies.

In this regard, this study contributes to the VAT and taxation literature. It is one of the few that investigate the VAT effect in the KSA, then an additional encouragement to complete this article is to observe the effect of imposing the new 15% VAT on the profitability of non-financial Saudi listed companies. This paper is related to the empirical works that assess the effects of different VATs through time. The relationship is closer to those papers that investigated economic efficiency from different perspectives. However, previous studies do not examine the role of the VAT per se, and, more importantly, whether the design of how taxes are collected affects growth. Thus, this study focuses on examining the following question: Does imposing the 15% VAT affect profitability of Saudi companies? Using a time series sample of non-financial listed Saudi companies as one of the G20, OECD and GCC countries over two periods of time 2019–2020.

Moreover, this investigation has a varied realistic implementation for investors, businesses, economic analysts and policymakers. To the best of our knowledge, it is the first article considering the latest VAT execution in the KSA which proposes to examine the consequences of such interventions for the non-financial companies' sectors. The outcomes are significance for policymakers and should be taken into consideration by the KSA government by knowing the consequences of previous interventions before carrying out the next move of government interventions in the economic sectors of the Kingdom. Accordingly, this paper proceeds to describe the evident policy influence which can be employed not solitary to the KSA, but to other smaller countries considering a significant reform to their VAT rates. Ultimately, this is the reason why this development would be of interest to policymakers. Despite the fact we offer robust suggestions of the substantial negative influence of the VAT rate rise on company profitability, it is significant to edge that the scale of the influence could be exaggerated by out-of-control reasons.

The remainder of the paper is as follows. Part II explores related literature, Part III outlines the research design and analyses, Part IV explores the additional tests and Part V provides a brief conclusion.

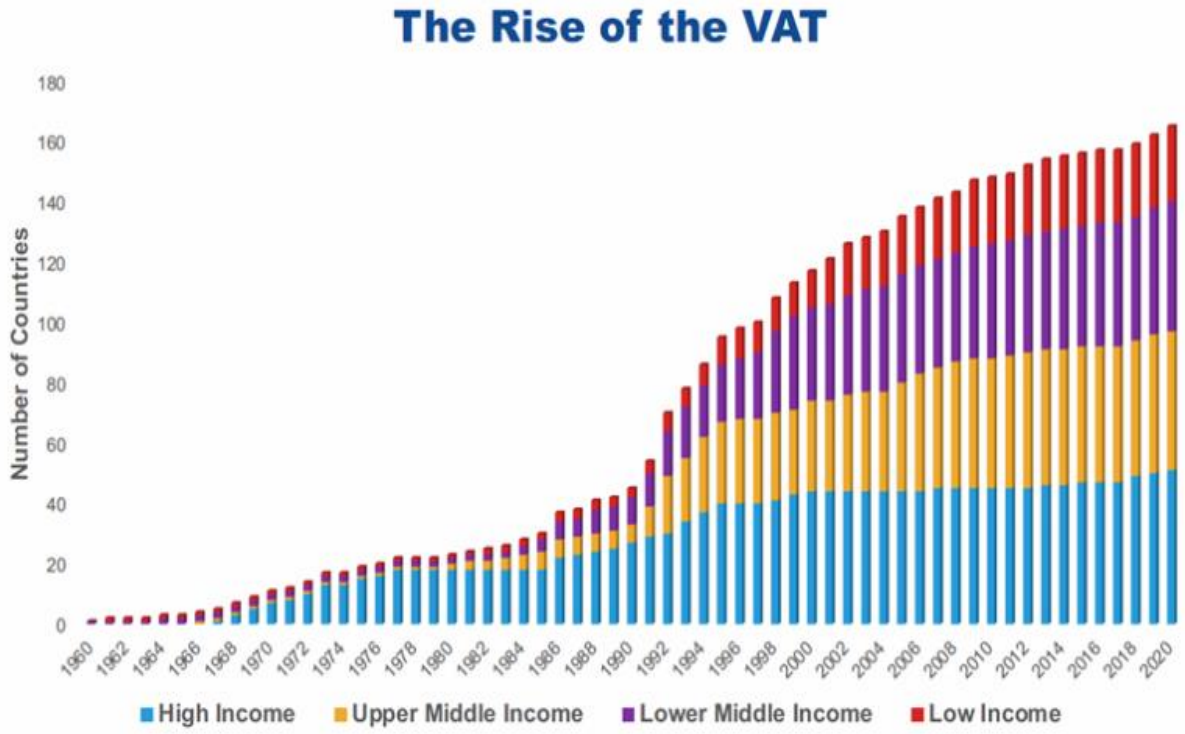
II RELATED LITERATURE

The shifting economic circumstances of worldwide growth at the end of 2019–2020 result in a need to guarantee the efficacy and functioning of the tax system in any country. The process of globalisation of economic models identifies the requirement to change the tax management in any country to these by confirming the capability and comprehensiveness of the revenue base of each country to diminish the underground economy, expand the tax base and improve the main tax instruments. These circumstances need constant enhancement and strengthening of global tax administration in the face of various challenges related to tax transparency, counting through the fast growth of business and commerce on the internet.[14] VAT is a modern tax; as of 2020, over 160 countries around

[14] Aleksy Kwilinski, Henryk Dzwigol and Vyacheslav Dementyev, 'Model of Entrepreneurship Financial Activity of the Transnational Company Based on Intellectual Technology' (2020) 24 *International*

the globe have implemented a VAT. Some countries refer to the tax as General Sales Tax or Goods and Services Tax. Figure 1 below shows the dramatic change and increases to VAT over time and Figure 2 (further below) illustrates the VAT rates of Middle Eastern countries.

FIGURE 1: THE RISE OF THE VAT



Source: IMF Internal International Tax Rates Database.

FIGURE 2: MIDDLE EAST VAT RATES

Source: IMF Internal International Tax Rates Database

Journal of Entrepreneurship 1–5; Abramova et al, 'The Ecosystem of VAT Administration in E-Commerce: Case of the Eastern Europe Countries' (2021) 39(5) *Studies of Applied Economics* 1–15; Dubyna et al, 'Transformation of Household Credit Behavior in the Conditions of Digitalization of the Financial Services Market' (2021) 14(1) *Journal of Optimization in Industrial Engineering* 97–102; Shkarlet et al, 'Infrastructural and Regional Development: Theoretical Aspects and Practical Issues' (2021) 38(4) *Studies of Applied Economics*.

The spirit of the VAT is that it is charged on all transactions however, being credited alongside tax due on dealers' sales, eventually occurs to carry if the crediting chain is steady, and tax exactly levied on imports and remitted on exports merely on the last consumption.[15]

At all periods of the development of tax relationships, tax management has been explained as the construction of situations for the voluntary compliance with tax commitments, consequently, the payment of taxes and duties. In the event of non-compliance with the law, the application of corresponding penalties arises. Its main objective has been and remains to attain the effectiveness (low tax cost) and efficiency (integrity of the mobilisation of tax duties) of the work of the tax system[16].

Moreover, prior studies[17] recommend that the divergence of C-efficiency from unity in developed economies is mostly because of the VAT that is not levied as a consequence of exemptions, decreased rates or compliance issues. However, Acosta-Ormaechea and Morozumi,[18] argue that in the long-term, a boost in C-efficiency, maybe indicating the augmentation of the VAT base throughout small number of exemptions and a more uniform-rate structure with less decreased rates, has a growth-promoting influence relative to an increase in the VAT standard rate that declines the efficacy gains. As those VAT design characteristics, that have been common in many developed economies involving EU countries, change resource distributions extensively.

In an inclusive, neutral, and operative way the VAT has been designed to tax the production chain and individual consumption. The VAT remained the utmost extensive tax reform worldwide throughout the subsequent semi of the 20th century and has verified to be a key underpinning of government incomes. The VAT is widely utilised in developing and developed countries.[19] The rule of the VAT — mostly the individuals' personal consumption, for example is measured via the value paid for services and goods. The implementation of VAT aids exports since exported goods are exempted from tax. Further, to the benefit of tax exception in the final step, it is conceivable to regain all the tax paid in the prior exporting steps, and thus the VAT helps the affordability of local

---

15 Keen (n 3).

16 Наталія Сергіївна Орлова and Алла Іванівна Іващенко, 'Comparative Analysis of Some EU and EU Associated Countries to Identify the Phenomenon of Business Development in Post-Socialist Countries' (2017) 163(1) *Економічний часопис-XXI* 22–25; Grigoraș-Ichim et al, 'Shaping the Perception and Vision of Economic Operators from the Romania-Ukraine-Moldova Border Area on Interim Financial Reporting' (2018) 173 *Economic annals-XXI*; Bondarenko et al, 'Risk Management of Enterprise Restructuring Strategy' (2020) 11(5) *International Journal of Advanced Research in Engineering and Technology*; Kholiavko et al, 'Comprehensive Methodological Approach to Estimating the Research Component Influence on the Information Economy Development = Комплексний методичний підхід до оцінювання впливу дослідницької компоненти на розвиток інформаційної економіки' (2020) 178(4) *Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu*.

17 Ebrill et al, The Modern VAT (Report, 2001, International Monetary Fund); Michael Keen, 'The Anatomy of the VAT' (2013) 66(2) *National Tax Journal* 423–446.

18 Santiago Acosta-Ormaechea and Atsuyoshi Morozumi, 'The Value-Added Tax and Growth: Design Matters' (2021) *International Tax and Public Finance* 1–31.

19 Alan Schenk, Victor Thuronyi and Wei Cui, *Value Added Tax* (Cambridge University Press, 2015).

goods in overseas markets. Moreover, measures of VAT obedience rates are appreciated for classifying problem areas in VAT execution.[20]

Entirely tax rules are self-growing to some level and solitary of the core causes to practice the synthetic-control-method to measure its capability to account for unnoticed heterogeneity and further agreeably than matching techniques or old-style panel regressions. The context of the VAT implementation affords an exceptional exogenous set to evaluate the influence of tax improvements on economic effectiveness.[21] In this context, Zou, Shen and Gong,[22] discovered a clear drop in liability proportions after the VAT reform, in their study of the influence of China's 2007 VAT reform on company leverage. That drop in liability percentage was more significant amongst private firms than public firms and foreign companies, which may be described by the fact that private firms typically face tighter financing restrictions.

VAT choices are regularly impacted by outside powers that are ostensibly external to the inner circumstances of the restructuring countries. Numerous scholarly and non-academic foundations characterise the job of multifaceted associations, particularly the European Union ('EU') and the International Monetary Fund ('IMF'), in affecting the boost-up choice of VAT. The EU necessitates that part statuses embrace VAT on entrance to the EU.[23] Along these lines, any nation becoming a member of the EU or trying to join the EU desires to implement a VAT.[24]

Likewise, the IMF is a robust supporter of the VAT and regularly places the implementation of VAT as solitary of the settings for assistance and financing a mortgage. Accordingly, nation's that want the IMF's support have an abundant advanced likelihood of implementing a VAT.[25] For example, the VAT a 25% upper opportunity of implementing one in the year afterward in countries that enter a non-crisis program exclusive of a VAT, which verifies the prevalent discernment that the IMF has played an important function in the extension of the VAT. Ebrill et al,[26] estimate that nations that familiarised a VAT throughout the 1980s and 1990s utilised the IMF's guidance in implementing the VAT.[27]

---

20 James Giesecke and Nhi Hoang Tran, 'A General Framework for Measuring VAT Compliance Rates' (2012) 44(15) *Applied Economics* 1867–1889.

21 Adhikari (n 2).

22 Jingxian Zou, Guangjun Shen and Yaxian Gong, 'The Effect of Value-Added Tax on Leverage: Evidence from China's Value-Added Tax Reform' (2019) 54 *China Economic Review* 135–146.

23 Adam et al, 'A Retrospective Evaluation of Elements of the EU VAT System: Final Report' (Report No TAXUD/2010/DE/328, FWC No TAXUD/2010/CC/104, Institute for Fiscal Studies, 2011).

24 Keen (n 3); Adhikari (n 2).

25 Keen (n 3).

26 Ebrill (n 17).

27 Keen (n 3); Alex Ufier, 'Quasi-Experimental Analysis on the Effects of Adoption of a Value Added Tax' (2014) 52(4) *Economic Inquiry* 1364–1379; Pavel Čížek, Jinghua Lei and Jenny E. Ligthart, 'Do Neighbours Influence Value-Added-Tax Introduction? A Spatial Duration Analysis' (2017) 79(1) *Oxford Bulletin of Economics and Statistics* 25–54.

According to previous studies,[28] the plan of the VAT construction in one locale impacts the plan of assessment constructions in neighbouring territories. If nations implement a VAT because of the impact of their neighbours, at that point such tax reform is progressively external to the financial state of the implementing nation than a change persuaded by their interior economic circumstances. The presentation of the VATs without a doubt pursued regional waves.[29] For example, more than 11 other European nations received VAT inside five years of France's choice to implement a VAT. Correspondingly, 11 supplementary Latin American nations presented the VAT inside a time of Brazil's choice to implement a VAT. The copycat conduct is especially solid in Eastern Europe, where 18 nations implemented VAT inside five years of Hungary's VAT implementation. A comparative example is additionally discovered in the creating nations of Asia and sub-Saharan Africa. The impressionist conduct in VAT appropriation is likewise shown in increasingly methodical studies.[30] In this context, we disagree with what Case et al[31] and Besley and Case[32] have stated as that is not the only reason for many other European countries introducing VAT after France, there are some European countries that introduced a VAT after Hungary (another member of the EU) and countries in Asia have introduced VAT/GST at various times, not necessarily at similar times.

Practically, the entirety of the nations implemented VAT to supplant sales taxes (i.e., manufacturing tax, whole-sale tax, or sales tax). In some nations, they additionally utilised a VAT prologue to diminish further unproductive indirect taxes, or to some extent decrease direct taxes. This holds as a rule too, and not simply in the nations canvassed in other studies.[33] For example, in the example of 88 nations for which the author could gather information, Panama and Japan are the main two nations that had no broad sales taxes beforehand the VAT appropriation. Japan altogether decreased different extract taxes e.g., vehicles sales tax as of 23% to 6% and Panama fundamentally diminished different stamp duties once they implemented a VAT. Hence, these VAT changes provide a perfect set to assess the effect of changing sales and sales taxes through VAT on economic effectiveness.[34]

In relation to micro-enterprise (new-energy industry) a semi common analysis investigated the impact of new energy VAT incentives on the microenterprise level. Utilising the Differences-in-Differences ('DiD') method and a monetary board

---

28 Anne C. Case, Harvey S. Rosen and James R. Hines, 'Budget Spillovers and Fiscal Policy Interdependence' (1993) 52(3) *Journal of Public Economics* 285–307; Timothy Besley and Anne Case, 'Does Electoral Accountability Affect Economic Policy Choices? Evidence from Gubernatorial Term Limits' (1995) 110(3) *The Quarterly Journal of Economics* 769–798.

29 Ibid.

30 Richard E. Krever, *VAT in Africa* (PULP, 2008). See also above n 27.

31 Case (n 28).

32 Besley (n 28).

33 Alex Ufier, 'The Effect of VATs on Government Balance Sheets' (2017) 24(6) *International Tax and Public Finance* 1141–1173.

34 Adhikari (n 2).

informational collection of China's listed organisations, it discovered that in 2008 China's VAT incentives (e.g., VAT refunds) for new-energy sectors (basically alludes to nuclear-power and wind-power) are ineffectual in animating company return on equity ('ROE'). The study recommended, tax encouragements for terminal use must be supported to alleviate the overloading in the new-energy sector. That means a VAT increase influences a company's profitability when there are no VAT incentives to stimulate and increase the demand for goods then the company's profitability decreases. Economic incentives must be familiarised to evade the market alteration and spiteful struggle of the new-energy sector. Encouraging research and development ('R&D') motivations is favourable for improvement in renewable energy technologies. Comparing supportive measures for the improvement of the new-energy sector must be executed in China's listed firms.[35]

VAT is an indirect tax in the tourism industry, alike the United States ('US'). Turnover tax, levied on tourism services and goods on the VAT at different steps of manufacturing. Bistros, cafes and hotels in the EU,[36] accumulate VAT for the government.[37] VAT can be considered as a macroeconomic instrument for tourism administration, meanwhile it raises the prices that face visiting tourists. Core outcomes specify that VAT raises have non-negative influences on the tourist stream. This suggests that as a macroeconomic instrument, governments can deliberate VAT growth in their plans, as to account for essential infrastructure creation to control boosted tourist inflow.[38] Thus, given that a VAT does not make a destinations less attractive and for governments the general marginal rise in VAT does not influence tourism, and hence maybe a possible choice.

'With (VAT) approach, income from capital would not be taxed until it is ultimately consumed'.[39] According to Golob,[40] the VAT has a positive effect on stock prices. This type of tax would disregard taxes on capital gains and dividends, but stock prices would rise a little less, meanwhile firms would still be taxed with different taxes. This is due to the reduction of the available income to be taxed. However, VAT taxes expenditure, for registered companies, the VAT generally has a revenue neutral influence, as they are entitled to input tax credits on taxable inputs. An instance of the influence of VAT is what

---

35 Chuanwang Sun, Yanhong Zhan and Gang Du, 'Can Value-Added Tax Incentives of New Energy Industry Increase Firm's Profitability? Evidence from Financial Data of China's Listed Companies' (2020) 86 *Energy Economics* 104654.

36 HOTREC, 'European Trade Association of Hotels, Restaurants and Cafes' (2021) <https://www.hotrec.eu/>.

37 Helga Kristjánsdóttir and Paula Remoaldo, 'Tourism in a Remote Nordic Region: VAT, internet, Oil, English, Distance, Hofstede, and Christianity' (2019) 5(1) *Cogent Social Sciences* 1709346.

38 Helga Kristjánsdóttir, 'Tax on Tourism in Europe: Does Higher Value-Added Tax (VAT) Impact Tourism Demand in Europe?' (2020) *Current Issues in Tourism* 1–4.

39 United States Congress Senate Committee on Banking, Housing and Urban Affairs, *United States Trade Policy and the Economy: Hearings Before the Committee on Banking, Housing, and Urban Affairs*, United States Senate, One Hundred and Second Congress, Second Session, to Review Some of the Major Causes of Our Current Economic Difficulties, and to Suggest Steps that the United States Can Take Now to Deal with These Problems (US Government Printing Office, 1992) vol 102.

40 John E. Golob, 'How Would Tax Reform Affect Financial Markets?' (1995) 80 *Economic Review — Federal Reserve Bank of Kansas City* 19–40.

Asogwa and Nkolika[41] found in their study about the VAT's influence in Nigeria, which included stocks. This study found that there was an optimistic influence of VAT on stocks and on investments, and in general in the KSA there is a normal impact of VAT on stock prices. As a financial exchange record is the thing that quantifies the general action and execution of each stock in the securities market.[42] Financial exchanges, often have a main index which clarifies how most organisations in the economy are doing, which can be influenced by any inside or outer components, including any tax activities. In addition, the securities exchange can give an extremely away from of how the economy is getting along. Actually, VAT generally does not apply to investments and financial supplies are generally exempt from VAT. Where the issues augmented by VAT and financial investments maybe the utmost questioning of all VAT and financial supplies to resolve.[43]

In this context, like the Dow Jones or the S&P500, the main index for the Saudi Arabian securities exchange is Tadawul[44] All Shares Index ('TASI'). TASI measures the Saudi securities exchange and can trace the status of each stock. Stocks typically clarify how a firm is doing based on their revenue and sales. This guides to a good association between stock prices and consumption levels. Which supposed to be influenced by VAT meanwhile taxes were continuously influencing the economy. This is another encouragement to conduct this study in order to measure the effects of implementing the new 15% VAT that was imposed from 1 July 2020 in non-financial[45] KSA listed companies[46] in Tadawul.

III Research Design

A *Methodology, Sampling and Data Sources*

In general, the experimental investigation of the economic impacts of VATs is horrifically irregular. It tends to be separated into two classes: decreased structure analysis and general equilibrium analysis. The primary preferred position of displaying general equilibrium is that it gives an away from and a pure line between the hypothetical and practical aspects of fiscal policy investigation. However, they likewise have significant impediments. For example, they build solid and impromptu suspicions about the

---

41 F. O. Asogwa and Okeke Mercy Nkolika, 'Value Added Tax and Investment Growth in Nigeria: Time Series Analysis' (2013) *IOSR Jounal of Humanities and Social Science*.

42 Maureen Burton and Bruce Brown, *Financial System of the Economy: Principles of Money and Banking: Principles of Money and Banking* (Routledge, 2014).

43 Richard E. Krever, 'VAT and Financial Investments' in *VAT and Financial Services* (Springer, 2017) 189–197.

44 'The Saudi Exchange is a completely owned subsidiary by Saudi Tadawul Group and was established in March 2021 following the transformation of the Saudi Stock Exchange (Tadawul) into a holding firm, Saudi Tadawul Group.'

45 In this regard, there are also previous studies investigating the effects of VAT on KSA Banks which are excluded from our sample, for example, Alhussain (n 9); Ahmad Alkhodre et al, 'A Blockchain-Based Value Added Tax (VAT) System: Saudi Arabia as a Use-Case' (2019) 10(9) *Int. J. Adv. Comput. Sci. App*l 708–716.

46 Listed company means approved in the Exchange.

utilitarian types of the model, the sort of adaptability, the tax treatment, the structure of the market, the kind of innovation, and so on, that are commonly not kept up in reality[47].

All published equilibrium papers utilise data from high revenue nations like the US, Canada, Germany and Norway.[48] They found an optimistic influence of VAT on economic effectiveness and supplementary macroeconomic factors. Nevertheless, when they integrate inadequacies originate in reality VATs in their models, the effectiveness expansions attained by implementing a VAT meaningfully reductions. For example, Bye et al,[49] found that counting selective-services in the VAT basis decreases prosperity paralleled to non-counting selective-services in the VAT basis or counting all facilities in the VAT basis.[50]

Our article utilises a periodic dataset from a big section of registered companies in Saudi Arabia from 2019 before imposing the new VAT rate to 2020, after imposing the new VAT rate. The sample framework was chosen due to the time of implementing the new 15% VAT rate and the public access to information about VAT of non-financial companies, where Tadawul force all listed companies to publish their financial statements publicly quarterly and annually on the TASI website. TASI includes 192 publicly traded firms separated into 11 main sectors. The foremost segments are consumer discretionary, information technology, energy, consumer staples, materials, health care, industrials, communication services, real estate, utilities, and financials. Financial companies excluded from the sample framework as the have special treatments and some previous studies investigated the effects of VAT on KSA Banks, the final sample framework is 131 listed companies as clearly depicted in Table 1 below.

---

47 Adhikari (n 2).

48 Charles L. Ballard, John Karl Scholz and John B. Shoven, 'The Value-Added Tax: A General Equilibrium Look at its Efficiency and Incidence' in *The Effects of Taxation on Capital Accumulation* (University of Chicago Press, 1987) 445–480; Piggott, John and John Whalley, 'VAT Base Broadening, Self Supply, and the Informal Sector' (2001) 91(4) *American Economic Review* 1084–1094; Boeters et al, 'Economic Effects of VAT Reforms in Germany' (2010) 42(17) *Applied Economics* 2165–2182; Brita Bye, Birger Strøm and Turid Åvitsland, 'Welfare Effects of VAT Reforms: A General Equilibrium Analysis' (2012) 19(3) *International Tax and Public Finance* 368–392.

49 Bye (n 48).

50 Ballard (n 48).

TABLE 1: VAT RATE AND SAMPLE FOR SAUDI'S NON-FINANCIAL COMPANIES CLASSIFIED BY INDUSTRIES

SECTOR	5% IMPLEMENTATION PERIOD*	15% IMPLEMENTATION PERIOD*	NUMBER OF COMPANIES
Energy	From 1 January 2018 to 1 July 2020	From 1 July 2020, ongoing	5
Materials			42
Commercial and Professional Service			3
Transportation			5
Consumer Durables and Apparel			6
Consumer Services			10
Media and Entertainment			2
Retailing			8
Food and Staples Retailing			4
Food and Beverages			12
Health Care Equipment and Service			7
Pharma, Biotech and Life Science			1
Software and Services			2
Telecommunication Services			4
Utilities			2
TOTAL			**113**

Note: * In the KSA, VAT was first introduced in all industries as a 5% VAT on goods and services as of 1 January 2018 and because of COVID-19 the KSA on 1 July 2020, increased the VAT to 15%.

B *Profitability Analysis*

Table 2 below presents an initial overall profitability analysis of the sample selected, as it reports the mean, standard deviation, median, maximum, profitability percentile in 25%, 50% and 75% for the sample selected in 2019 and 2020 financial years. The selected sample as highlighted before comprises 226 (113*2) firm-year observations over the period 2019–2020 before and after tax increased.

Generally, it is observed that for the same sample, in 2020 KSA companies are less profitable than they were in 2019. This is clearly apparent in the table as the mean net income in 2019 was 3,169.31 billion which decreased to 1,813.003 billion in 2020. Since the companies were exposed to COVID-19 crises which led to significant increase in VAT. Moreover, maybe the reason why firms are less profitable in 2020 than in 2019 is not merely to do with a rise in the VAT rate, but also COVID-19 and other factors which is beyond the scope of this paper. For instance, resultant increases in the prices of goods and services reduced demand which leads to decrease the company's profitability. Thus, additional analysis is required to understand the discrepancies between these values.

TABLE 2: OVERALL PROFITABILITY ANALYSIS

2020								
VARIABLE	**OBS**	**MEAN**	**STD. DEV.**	**MIN**	**MAX**	**PERC25%**	**PERC50%**	**PERC75%**
*EBITDA/T	113	0.0475005	0.0871319	-0.2104513	0.4120229	0.0000612	0.0400477	.1037356
*EBIT/T	113	0.0226953	0.075097	-0.2220433	0.1892432	-0.0062535	0.0213612	0.0710064
*EBTExclUnu~s/T	113	0.0343528	0.1460593	-0.2215373	1.332865	-0.006998	0.0217555	0.0708684
EAT2020	113	1813.003	17420.56	-3781.13	184926	-0.0119662	0.0264552	0.0706598
2019								
EAT2019	113	3169.31	31119.4	-1676.32	330816	-0.0187827	0.0219593	0.0595443
Change(%)inEarn	113	2.973124	25.42851	-16.4361	264.1	-0.4129	0.0953	0.9172

All the measures of profitability are scaled by total assets and include earnings before interest, taxes, depreciation and amortisation (EBITDA/T), earnings before interest and taxes (EBIT/T), earnings before taxes (Earn2020T) and earnings after taxes (Earn2020T).

* Scaled by total assets

We analysed per year the values for EAT which reflected net income per a year. Therefore, we selected this measure of profitability since it is calculated after interest, tax, amortisation and depreciation as it cannot be different at the same country, also company size etc.). Figure 3 below shows the percentage of EAT (Earnings after taxes) per year for Saudi firms for the period 2019–2020. It clearly shows that in 2019 the average net income is high in the year before the adoption of the new VAT rate in KSA. Starting from Q2 of 2020, the impact of the recent financial crisis of COVID-19 is observable in a steady decline in the average profitability.

FIGURE 3: SAUDI COMPANIES' EAT IN 2019 AND 2020

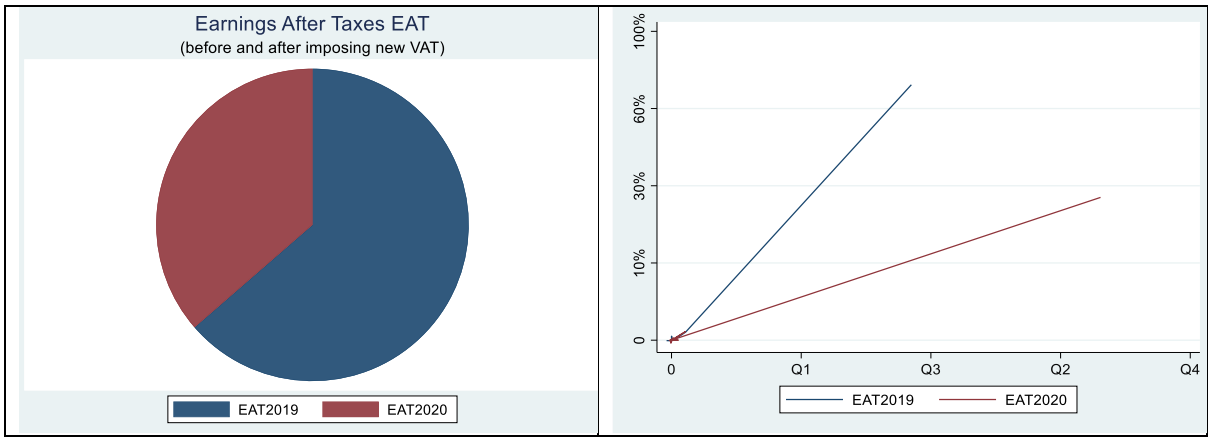


Table 3 reports Profitability by year of a sample using WilcoXon rank-sum and Wilcoxon signed-rank test[51] to compare values of average profitability for 2019 versus 2020 for each firm size and year. Superscripts indicate statistical significance at 0.01 (*), 0.05 (**) and 0.10 (***) percent levels. P-values are reported in parenthesis. We test the null hypothesis that two independent samples (2019 and 2020) are the same against an alternative hypothesis that a particular population tends to have larger values than the other. A significant Z value indicates there is confidence evidence of significant differences across companies and the null hypotheses are rejected. Overall, the results support the hypothesis that in 2020 firms are, on average, less profitable than in 2019. Interestingly, after the VAT increase in Q4 2020 firms profitability became even a little bit different, the results are statistically significant and show lower Z- statistic.

TABLE 3: WILCOXON SIGNED-RANK TEST

	OBS	SUM RANKS			
Signrank EAT2019 = SIZE2019	Positive = 75	4581	Ho: EAT2019 = SIZE	z =	3.898***
	Negative = 38	1860		Prob > |z| =	(0.0001)
Signrank EAT2020 = SIZE2020	Positive = 75	4471	Ho: EAT2020 = SIZE	z =	3.582***
	Negative = 38	1970		Prob > |z| =	(0.0003)

51 Non-parametric test used foe matched-paired data analysis, for a single sample, or based on differences. The null-hypothesis is that the individual, or differences observations in the single sample case, have a distribution centred about zero: R. F. Woolson, 'Wilcoxon Signed-Rank Test' (2007) *Wiley Encyclopedia of Clinical Trials* 1–3.

C *Descriptive Statistics*

Table 4 below reports the summary statistics of dependent and independent variables defined in the previous section. GvD2020 and GvD2019 are measured as Government Debt to GDP, the average government debt to GDP was higher for sample in the 2020 analysed than 2019. The table represents mean, median, and standard deviation for 2019 before VAT increase and 2020 after VAT increase. SIZE2019 and SIZE2020 are measured as the natural logarithm of total assets. Moreover, the 25th and 75th percentiles for the abovementioned variables.

TABLE 4: DESCRIPTIVE STATISTICS

VARIABLE	OBS	MEAN	STANDARD DEVIATION	MIN	MAX	PERC 25%	PERC 50%	PERC 75%	WILCOXON SIGN-RANK TEST (Z-STATISTIC)
ProFtEBITDA	113	0.0000475	0.0000871	-0.0002105	0.000412	6.12e-08	0.00004	0.0001037	5.456***
ProFtEBIT	113	0.0000227	.0000751	-0.000222	0.0001892	-6.25e-06	0.0000214	0.000071	3.451***
ProFtEBTUnu	113	0.0000344	.0001461	-0.0002215	0.0013329	-7.00e-06	0.0000218	0.0000709	3.683***
2019 (BEFORE TAX REFORM)									
EAT2019	113	0.0000842	0.0007884	-0.0006502	0.008303	-0.000018	0.0000214	0.0000586	3.259***
SIZE2019	113	6.402416	0.7762833	4.799299	9.600352	5.889565	6.336924	6.657192	_____
GvD2019	113	2.224271	8.346027	0.0095256	7.217121	0.117262	0.3284856	0.6867278	_____
2020 (AFTER TAX REFORM)									
EAT2020	113	0.0000171	0.0000853	-0.0002951	0.0002637	-0.000012	.0000265	0.0000707	2.944***
SIZE2020	113	6.401014	0.7646444	4.63827	9.274225	5.867576	6.351831	6.67686	_____
GvD2020	113	1.27e+14	7.60e+14	1.79e+11	7.75e+15	3.04e+12	9.27e+12	1.96e+13	_____
Chg(ERN)	113	2.973124	25.42851	-16.4361	264.1	-0.4129	0.0953	0.9172	_____

Note: the statistical significance at 0.01 (*), 0.05 (**) and 0.10 (***) percent levels.

The WilcoXon signed rank test is performed to test statistical significant differences in mean values for 2019 and 2020. In this regard, Wilcoxon signed-rank test used as a nonparametric statistical hypothesis test that compares two closely related samples to see if their population mean ranks differ. Results revealed less significant in 2020 sample the year of the VAT increase as it drops from 3.259*** to 2.944***.

D *Models, Multivariate Results and Discussions*

We analysed profitability in general in the above section. In this section, we examine the effect of the VAT rise on company profitability levels in 2020. So, the dataset of 2019 can be utilised to predict and/or expect the outcomes of the recently proposed equivalent VAT increase in 2020.

In the first model we ran the OLS regression to determine the effects of independent variables on a profitability which was measured by EBITDA.

$$ProFtEBITDA = \beta_0 + \beta_1\ SIZE2020 + \beta_2\ EAT2020 + \beta_3\ GvD2020 + \beta_4\ EAT2019 + \beta_5\ SIZE2019 + \beta_6\ GvD2019 \quad (1)$$

TABLE 5: VARIABLES DEFINITIONS AND MEASUREMENTS

VARIABLES	DEFINITION	MEASUREMENT
ProFtEBITDA	Company Profit	Measured by earnings before interest, taxes, depreciation, and amortisation (EBITDA) and scaled by total assets*
SIZE2020	Company Size in 2020	Measured by the natural logarithm of total assets**
EAT2020	Company Earnings after tax in 2020	measured by subtracting all expenses and income taxes from the revenues the business has earned
GvD2020	Government Debt 2020	Measured as government debt over GDP
EAT2019	Company Earnings after tax in 2019	Measured by subtracting all expenses and income taxes from the revenues the business has earned
SIZE2019	Company Size in 2019	Measured by the natural logarithm of total assets
GvD2019	Government Debt 2019	Measured as government debt over GDP

Notes: * All the measures of profitability are scaled by total assets and include: earnings before interest, taxes, depreciation and amortisation (EBITDA), Earnings before interest and taxes (EBT), Earnings before taxes (EBT) and Earnings after taxes (EAT). ** We expect a positive relationship among firm size

Initially, we grasp the question of whether a company's specific characteristics (IVs), affect profitability in 2019 and 2020. The results are reported in models 1, 2 and 3 — in each model we use different measurement of profitability. Table 6 below shows the findings of the independent variables on profitability measured by earnings before interest, taxes, depreciation, and amortisation (EBITDA) and scaled by total assets. R-squared equal (0.6052) which means that ProFtEBITDA level explained 61% of the total variance in ProFtEBITDA. Furthermore, this illustrates that the level of ProFtEBITDA has a good level of explanatory power. All company's specific characteristics variables in the two period are statistically significant at 1% level (p-value below 0.01). In addition, a

company's specific characteristics variables in 2020 have a higher sign then 2019. For 2020, in contrast to 2019, as companies grow older, their profitability seems to decline due to the COVID-19 crisis. In this model the outcomes strongly approve that raised levels of public debt in 2020 provided by the government to the economy negatively affect company profitability measured by EBITDA with (t = -2.66***).

In the second model, and as denoted in Table 7 below, we ran the OLS regression to determine the effects of independent variables on a profitability measured by EBIT.

$$ProFtEBIT = \beta_0 + \beta_1\ SIZE2020 + \beta_2\ EAT2020 + \beta_3\ GvD2020 + \beta_4\ EAT2019 + \beta_5\ SIZE2019 + \beta_6\ GvD2019 \quad (2)$$

TABLE 6: OLS REGRESSION RESULTS DV= PROFTEBITDA MODEL 1

PROFTEBITDA	COEF.	ROBUST STD. ERR.	T	P>T	[95% CONF.	INTERVAL]
EAT2019	0.1106933	0.0455473	2.43	0.017***	0.0203913	0.2009953
SIZE2019	0.0001276	0.0000615	2.08	0.040***	5.79e-06	.0002495
GvD2019	1.14e-13	4.37e-14	2.60	0.011***	2.72e-14	2.01e-13
SIZE2020	-0.0001571	0.0000617	-2.55	0.012***	-0.0002794	-0.0000348
EAT2020	0.7282002	0.1034695	7.04	0.000***	0.5230618	0.9333387
GvD2020	-1.30e-19	4.87e-20	-2.66	0.009***	-2.26e-19	-3.29e-20
_cons	0.0002219	0.0000485	4.58	0.000***	0.0001258	0.0003181
R-squared =	0.6052					

ENHANCED CORRELATION MATRIX (PWCORRS)[52]

	PROFTE~A	SIZE2020	SIZE2019	GVD2020	GVD2019	EAT2020	EAT2019
ProFtEBITDA	1.0000						
SIZE2020	-0.0837	1.0000					
	0.3778						
SIZE2019	-0.0883	0.9936*	1.0000				
	0.3521	0.0000					
GvD2020	-0.0859	0.5048*	0.5353*	1.0000			
	0.3656	0.0000	0.0000				
GvD2019	-0.1268	0.5671*	0.5619*	0.3448*	1.0000		
	0.1809	0.0000	0.0000	0.0002			
EAT2020	0.7276*	0.1844*	0.1634*	0.0825	-0.0107	1.0000	
	0.0000	0.0505	0.0837	0.3850	0.9106		
EAT2019	0.0213	0.3940*	0.4246*	0.9431*	0.0448	0.1799*	1.0000
	0.8229	0.0000	0.0000	0.0000	0.6378	0.0566	0.8229

[52] The PWCORRS command is an improved version of Pearson's correlation matrix (PWCORR) and Spearman's rank correlation (SPEARMAN) that combines the features of both commands into single command that has enhanced formatting.

TABLE 7: OLS REGRESSION RESULTS DV= PROFTEBIT MODEL 2

PROFTEBIT	COEF.	ROBUST STD. ERR.	T	P>T	[95% CONF.	INTERVAL]
EAT2019	0.0696276	0.0394949	1.76	0.081**	-0.008675	0.1479301
SIZE2019	0.0000464	0.00005	0.93	0.356	-0.0000529	0.0001456
GvD2019	6.91e-14	3.74e-14	1.85	0.067	-4.99e-15	1.43e-13
SIZE2020	-0.0000551	0.000049	-1.12	0.264	-.0001523	0.0000421
EAT2020	0.6917655	0.0874201	7.91	0.000***	.5184466	0.8650845
GvD2020	-8.52e-20	4.19e-20	-2.03	0.044***	-1.68e-19	-2.19e-21
_cons	0.0000666	0.0000391	1.70	0.092**	-0.000011	0.0001442
R-squared=	0.6924					

Where: ProFtEBIT is a company profit measured by earnings before interest, taxes (EBIT) and scaled by total assets

ENHANCED CORRELATION MATRIX (PWCORRS)

	PROFTE~T	SIZE2020	SIZE2019	GVD2020	GVD2019	EAT2020	EAT2019
ProFtEBIT	1.0000						
SIZE2020	0.0597	1.0000					
	0.5301						
SIZE2019	0.0446	0.9936*	1.0000				
	0.6391	0.0000					
GvD2020	-0.0452	0.5048*	0.5353*	1.0000			
	0.6346	0.0000	0.0000				
GvD2019	-0.0628	0.5671*	0.5619*	0.3448*	1.0000		
	0.5084	0.0000	0.0000	0.0002			
EAT2020	0.8181*	0.1844*	0.1634*	0.0825	-0.0107	1.0000	
	0.0000	0.0505	0.0837	0.3850	0.9106		
EAT2019	0.0534	0.3940*	0.4246*	0.9431*	0.0448	0.1799*	1.0000
	0.5740	0.0000	0.0000	0.0000	0.6378	0.0566	

Secondly, Table 7 shows the findings of the independent variables on ProFtEBIT measured by earnings before interest, taxes (EBIT) and scaled by total assets. R-squared equal (0.6924) which means that ProFtEBIT level explained 69% of the total variance in ProFtEBI. Moreover, this illustrates that the level of ProFtEBIT has a good level of explanatory power and higher then ProFtEBITDA explanatory power in model one by 9%.

Furthermore, all company's specific characteristics variables in the two period are statistically significant at 1% level (p-value below 0.01). In contrast to model 1, this model when we use EBIT as measurement for profitability, we found that firm size in the two periods is statically unsignificant with positive sign coefficient in 2019 and negative sign coefficient in 2020. But, other a company's specific characteristics variables in 2020 have a higher sign then 2019 equal to model 1.

For 2020, in contrast to 2019, their profitability seems to decline due to the COVID-19 crisis. In model 2, the outcomes also strongly approve that raised levels of public debt in 2020 provided by the government to the economy less negative t-value affect company profitability measured by EBIT with (t = -2.03***) which confirms the effect of the COVID-19 crisis on Saudi companies' profitability in 2020.

In the third model we ran the OLS regression to determine the effects of independent variables on a profitability which was measured by *EBTUnu*.

$$ProFtEBTUnu = \beta_0 + \beta_1\ SIZE2020 + \beta_2\ EAT2020 + \beta_3\ GvD2020 + \beta_4\ EAT2019 + \beta_5\ SIZE2019 + \beta_6\ GvD2019, (3)$$

TABLE 8: OLS REGRESSION RESULTS DV= PROFTEBIUNU MODEL 3

PROFTEBTUNU	COEF.	ROBUST STD. ERR.	T	P>T	[95% CONF.	INTERVAL]
EAT2019	0.027959	0.0704643	0.40	0.692	-.1117433	0.1676613
SIZE2019	0.0000335	0.0000718	0.47	0.642	-0.0001089	0.000176
GvD2019	4.09e-14	6.20e-14	0.66	0.511	-8.20e-14	1.64e-13
SIZE2020	-0.0000568	0.0000784	-0.72	0.471	-0.0002123	0.0000987
EAT2020	0.7840316	0.1005927	7.79	0.000***	0.5845968	0.9834664
GvD2020	-3.64e-20	7.69e-20	-0.47	0.637	-1.89e-19	1.16e-19
_cons	0.0001691	0.000101	1.67	0.097**	-0.0000311	0.0003694
R-squared =	0.2098					

Where: ProFtEBTUnu is a company profit measured by EBT Excl. Unusual Items which represents EBT Before non-recurring Items and scaled by total assets

ENHANCED CORRELATION MATRIX (PWCORRS)

	PROFTE~U	SIZE2020	SIZE2019	GVD2020	GVD2019	EAT2020	EAT2019
ProFtEBTUnu	1.0000						
SIZE2020	-0.0272 0.7750	1.0000					
SIZE2019	-0.0353 0.7104	0.9936* 0.0000	1.0000				
GvD2020	-0.0365 0.7009	0.5048* 0.0000	0.5353* 0.0000	1.0000			
GvD2019	-0.0530 0.5771	0.5671* 0.0000	0.5619* 0.0000	0.3448* 0.0002	1.0000		
EAT2020	0.4428* 0.0000	0.1844* 0.0505	0.1634* 0.0837	0.0825 0.3850	-0.0107 0.9106	1.0000	
EAT2019	0.0170 0.8583	0.3940* 0.0000	0.4246* 0.0000	0.9431* 0.0000	0.0448 0.6378	0.1799* 0.0566	1.0000

Finally, in the third model in Table 8 (below), when the dependent variable is 'profitability' measured by EBTUnu, only one variable is significant which is earning after tax in 2020. This means that a company profit measured by EBT Excl-Unusual Items which represent EBT Before non-recurring Items and scaled by total assets is not a suitable measurement of profitability. This is due to the variance between the variables used and the structure of the study framework, thus we did not analyse these deeply as it appeared to not be a worthy measurement in our sample but it could be used in another setting. Notwithstanding, researchers receive advantages from our findings related to this measurement of profitability as they can rely on this information when they choose the right measurement of company profitability.

In general, regarding government debt ('GvD'), previous studies approve a lagged negative relationship between company profitability and government debt levels is expected.[53] They stated that high levels of public debt are expected to be harmful to firm growth and strength henceforth negatively influence firm profitability. This is important as Saudi government debt has risen considerably in the last years as it is obviously clear in Figure 4 and Figure 5 below in relation to annual and quarterly impacts respectively. However, results referred that the effect of GvD2019 in above three models on profitability (with three different measurements) were positive and statistically insignificant which means before the VAT rise and the level of GvD was normal, the effects of GvD on profitability were normal too.

On the other hand, our results of GvD2020 are in line with previous studies, as we found in models 1 and 2 the GvD2020 variable with high negatively influenced firm profitability which means that it will affect Saudi companies' growth in the long term. In model 3 when we use EBTUnu as a measurement of company profitability, the relationship coefficient was still negative, but insignificant that confirms the two measurements in models 1and 2 is more appropriate at reflecting firm profitability. Consequently, based on the outcomes, we assume that the significant reduction in company profitability in 2020 was not pushed by the change in the government debt in 2020. We believe this was due to COVID-19 crisis consequences and the significant increase in the VAT.

[53] Cesario Mateus and Irina B. Mateus, 'Does a VAT Rise Harm the Tourism Industry? Portuguese Evidence' (2021) 83 *Tourism Management* 104234.

FIGURE 4: YEARLY SAUDI ARABIA GOVERNMENT DEBT TO GDP

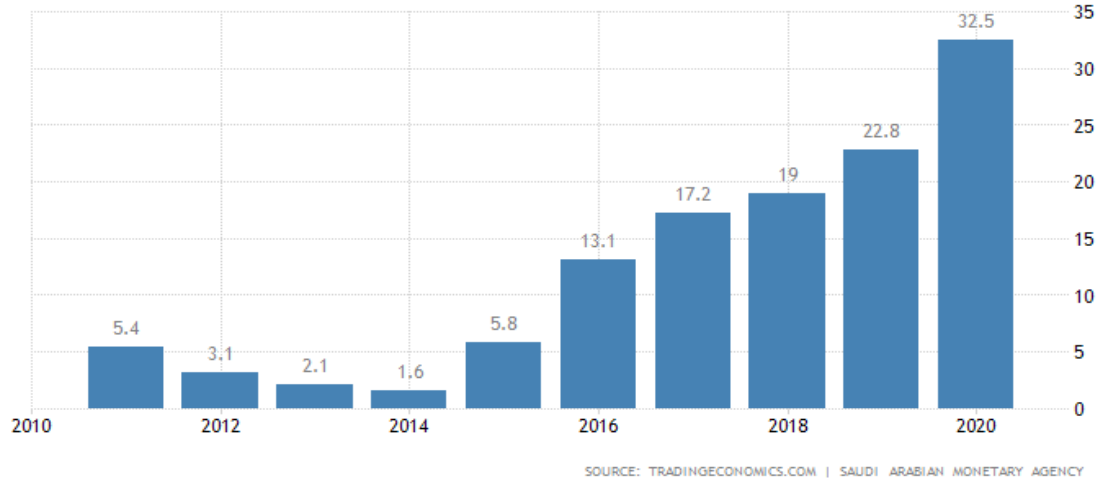
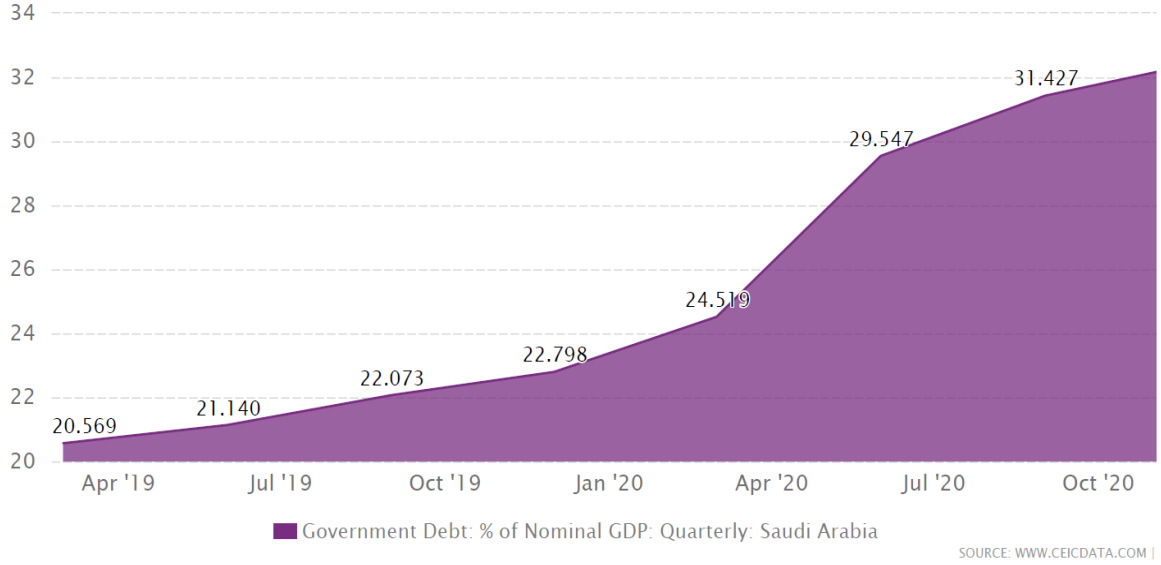


FIGURE 5: QUARTERLY SAUDI ARABIA GOVERNMENT DEBT TO GDP



IV ADDITIONAL TESTS

A *Difference in Differences Estimator*

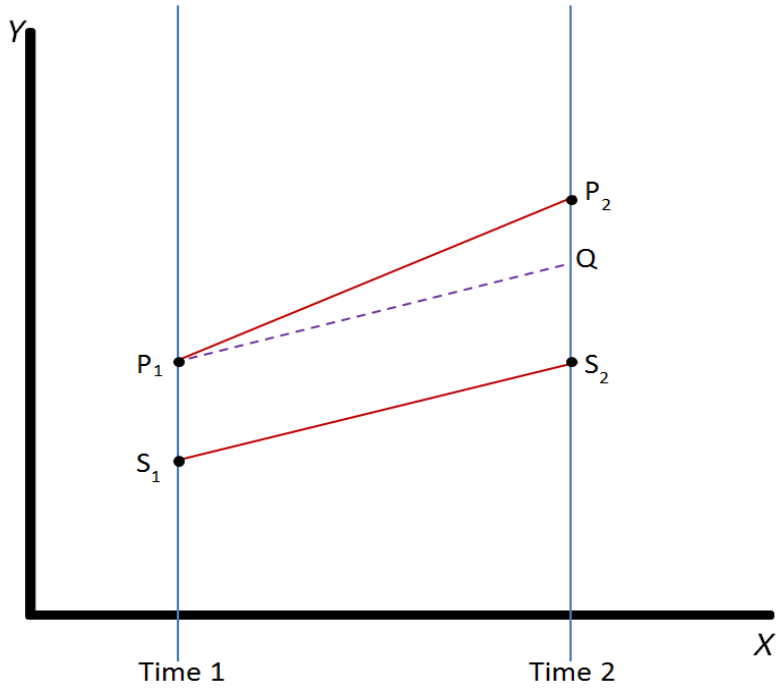
Matching techniques cannot explain the biases produced by unnoticed confounders as King and Nielsen[54] suggested to replace propensity score matching with other research designs as the tendency score matching regularly exacerbates these biases e.g., the DiD technique. This approach allows to control for both year and country fixed effects thus, we can control that all time invariant differences across years and shocks common to all years in the same country. Nevertheless, detecting the effects of a VAT employing DiD needs the paths of the outcome variable between, before and after imposing the VAT to be parallel; this assumption needs to control for specific time tendencies. Though,

54 Gary King and Richard Nielsen, 'Why Propensity Scores Should Not Be Used for Matching' (Pt Cambridge University Press) (2019) 27(4) *Political Analysis* 435–454.

according to the Wolfers,[55] and Meer and West[56] studies, the controlling for time tendencies employing DiD possibly biased estimations in the incidence of a dynamic treatment effect and the influence of the VAT will be homogeneous across reforming periods. Therefore, it does not allow to discover whether the influence of the VAT systematically diverges across years affording to their capability to correctly implement and design it.

We applied the DiD approach which requires data measured from a control group and a treatment group at two diverse periods, precisely in our study one time period before imposing the 15% VAT and one time period after imposing the 15% VAT. In Figure 6 below, the result in the control group is signified via the S line and the result in the treatment group is signified via the P line.

FIGURE 6: DATA TIME PERIODS



B *COVID-19 and VAT Change Using DID*

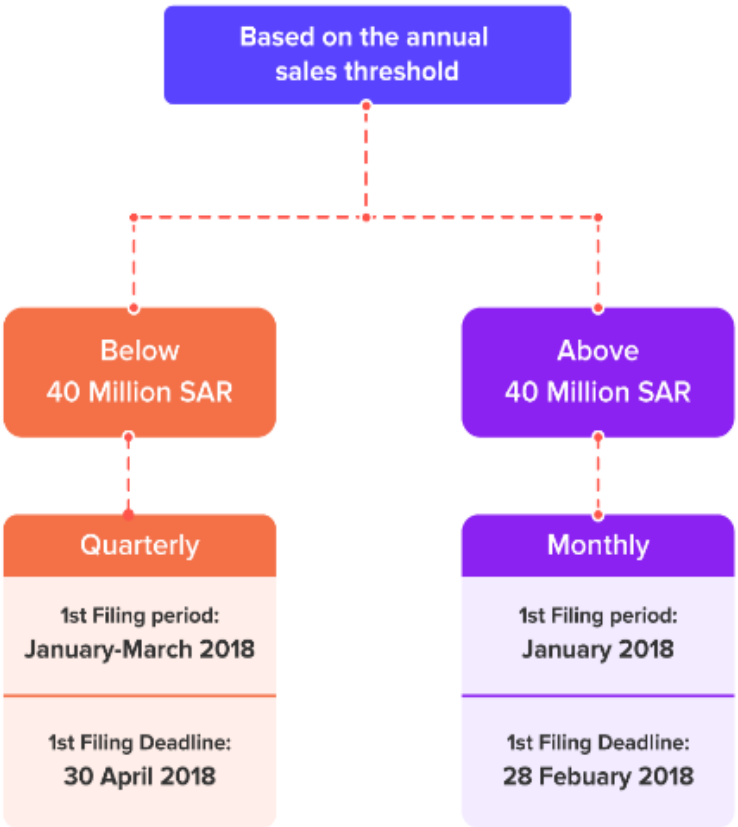
We used binary variables to measure the effect during the COVID-19 crisis, pre- and post-VAT change periods on firm profitability and the probability of bankruptcy. The first binary variable (VAT2019) and the second binary variable (VAT2020) is equal to one for 2020 and zero otherwise. The change of VAT rate from 5% to 15% was implemented in 1 July 2020.

55 Justin Wolfers, 'Did Unilateral Divorce Laws Raise Divorce Rates? A Reconciliation and New Results' (2006) 96(5) *American Economic Review* 1802–1820.

56 Jonathan Meer and Jeremy West, 'Effects of the Minimum Wage on Employment Dynamics' (Pt University of Wisconsin Press) (2016) 51(2) *Journal of Human Resources* 500–522.

Therefore, the full effect of such increase reflected in 2020, since VAT has almost an immediate impact on prices. This is because in KSA, the tax period can be monthly or quarterly, depending on the business owner's annual turnover. In Figure 7 below, there are two groups of taxpayers: companies with annual taxable sales of more than 40 million SAR, who are required to file monthly returns, and companies with annual taxable sales of less than 40 million SAR, who are required to file a quarterly tax return.

FIGURE 7: SAUDI COMPANIES TAX PERIOD



Moreover, the VAT return must be submitted by Saudi companies for each tax period between the first day and the last day of the month following the end of the tax period. For example: To file a VAT return for the January–March 2020 quarter, you must file before 30 April 2020, see Figure 8 below.

FIGURE 8: SAUDI COMPANIES TAX PERIOD DATES

Quarterly VAT Return schedule

Tax Period Dates	Return and Payment Due	Tax Period Dates	Return and Payment Due
January 1- March 31	April 30	July 1- September 30	October 31
April 1- June 30	July 31	October 1- December 31	January 31

According to Gautier and Lalliard,[57] 50% of price varies in the month of the new VAT introduction and 40% in the following month. Berardi, Gautier, and Le Bihan[58] afford suggestion that price variations are abundant more repeated in the quarter one. Hence the "first" escalation in prices in our study is expected in the third quarter of 2020. However, in line with , we claim that firms may take the functional option to recognize some of the VAT rise into their margins to prevent an extreme crash in demand and consequently be able to survive in the competitive environment. Hence, we anticipate a negative influence of such years on firm profitability. In this context, we estimate our models again in order to perform the DiD regression properly as follows:

Model 1a. DV is profitability which measured by EBITDA before and after VAT.

$$Y_i\ (ProFtEBITDA) = \beta_0 + \beta_1\ SIZE2019 + \beta_2\ SIZE2020 + \beta_3\ SIZE2019 * SIZE2020 + \beta_4\ EAT2019 + \beta_5\ EAT2020 + \beta_6\ EAT2019 * EAT2020 + \beta_7\ GvD2019 + \beta_8\ GvD2020 + \beta_9\ GvD2019 * GvD2020 + \varepsilon_i$$

Model 2a. DV is profitability which measured by EBIT before and after VAT.

$$Y_i\ (ProFtEBIT) = \beta_0 + \beta_1\ SIZE2019 + \beta_2\ SIZE2020 + \beta_3\ SIZE2019 * SIZE2020 + \beta_4\ EAT2019 + \beta_5\ EAT2020 + \beta_6\ EAT2019 * EAT2020 + \beta_7\ GvD2019 + \beta_8\ GvD2020 + \beta_9\ GvD2019 * GvD2020 + \varepsilon_i$$

Model 3a. DV is profitability which measured by EBTUnu before and after VAT.

$$Y_i\ (\text{ProFtEBTUnu}) = \beta_0 + \beta_1\ SIZE2019 + \beta_2\ SIZE2020 + \beta_3\ SIZE2019 * SIZE2020 + \beta_4\ EAT2019 + \beta_5\ EAT2020 + \beta_6\ EAT2019 * EAT2020 + \beta_7\ GvD2019 + \beta_8\ GvD2020 + \beta_9\ GvD2019 * GvD2020 + \varepsilon_i$$

Model 4a. DV is profitability which measured by EBITDA before and after VAT using different sample (226 company years observations).

$$Y_i\ (\text{ProFtEBTUnu}) = \beta_0 + \beta_1\ SIZE + \beta_2\ EAT + \beta_3\ GvD + \varepsilon_i$$

Where:

Y_i = is a linear function of the treatment

ε_i = Error

Other variable definitions are contained in Table 9 below.

[57] Erwan Gautier and Antoine Lalliard, 'How do VAT Changes Affect Inflation in France?' (2013) (32) *Bulletin de la Banque de France* 5–27.

[58] Nicoletta Berardi, Erwan Gautier and Hervé Le Bihan, 'Les Ajustements Individuels de prix à la Consommation en France: De Nouveaux Résultats sur la Période 2003–2011' (2013) 460(1) *Economie et Statistique* 5–35.

TABLE 9: DID FRAMEWORK AND VARIABLE DEFINITIONS

Before Imposing VAT		After Imposing VAT
Independent variables IVs		**Measurements of DV**
1. *EAT2019* 2. *SIZE2019* 3. *GvD2019*		1. *ProFtEBITDA* 2. *ProFtEBIT* 3. ProFtEBTUnu
Where: EAT: Company Earnings after tax SIZE: Company Size GvD: Government Debt	**Implementing the new 15% Value Added Tax (VAT)** **In 1frst July 2020**	Where: 1. is a company profit measured by earnings before interest, taxes, depreciation and amortisation 2. is a company profit measured by earnings before interest, taxes 3. a company profit measured by EBT Excl
		1. *EAT2020* 2. *SIZE2020* 3. *GvD2020*

C *Analysis and Discussion*

Table 10 below presents the results of four models DiD regressions. In four model, we perform the DiD estimator to measure the impact of the VAT rise in 2020 compared to 2019. One can infer that the variables EAT2019 and EAT2020, which captures the average difference in profitability for Saudi firms in 2019 versus 2020, is not statistically significant. This finding confirms the results from Table 10 where differences in the impact of the VAT rises on firm profitability using different measurements for 2019 and 2020 in order to make sure that the effect is real and exist as the time of our sample is short were almost identical (in 2019, model 1a: 0.498, model 2a: 0.448, model 3a: 0.808 but in 2020, 0.000 highly significant in all models, respectively). However, differences were observed from testing firm profitability with the interaction variable of both years E19_E20 of earnings after tax which is required by DID regression assumptions in model 2a negatively significant with profitability measured by *EBIT*. This is conforming our expectations of the negative effects of unusual rise of VAT in 2020.

TABLE 10: DID REGRESSION MODELS

IVs	TIME SIRES' SAMPLE MODEL 1A DV=PROFTEBITDA* PROB > F = 0.0000		MODEL 2A DV= *PROFTEBIT*** PROB > F = 0.0000		MODEL 3A DV=PROFTEBTUNU*** PROB > F = 0.0014		PANEL DATA SAMPLE MODEL 4A DV= PROFTEBITDA PROB > F = 0.1433		
	T	P>|T|	T	P>|T|	T	P>|T|	IVs	T	P>|T|
SIZE2019	3.05	0.003***	1.19	0.237	0.70	0.483	ContVAT	-2.16	0.032***
SIZE2020	0.42	0.673	-0.20	0.840	0.26	0.795	EAT	1.22	0.223*
S19_S20	-2.17	0.032***	-0.64	0.526	-0.63	0.532	SIZE	-0.56	0.579
EAT2019	0.68	0.498	0.76	0.448	-0.25	0.805	GvD	-0.21	0.832
EAT2020	9.21	0.000***	11.50	0.000***	4.16	0.000***	_cons	1.45	0.148*
E19_E20	-1.18	0.242*	-1.93	0.056***	-0.96	0.340	-	-	-
GvD2019	1.17	0.243*	0.10	0.920	0.17	0.863	-	-	-
GvD2020	0.45	0.656	0.27	0.784	0.77	0.441	-	-	-
D19_D20	-0.79	0.433	-0.05	0.960	-0.47	0.636	-	-	-
_cons	-1.82	0.072**	-0.48	0.635	-0.48	0.629	-	-	-
Df= 122	R-squared = 0.6394	Adj R-squared = 0.6078	R-squared = 0.7096	Adj R-squared = 0.6842	R-squared = 0.2235	Adj R-squared = 0.1557		R-squared = 0.030	Adj R-squared = 0.0129

**ProFtEBITDA*: is a company profit measured by earnings before interest, taxes, depreciation and amortisation
***ProFtEBIT"* is a company profit measured by earnings before interest, taxes
****ProFtEBTUnu*: a company profit measured by EBT Excl

R^2 is a number vary between zero to one, and this number shows the percentage change in the profitability of companies in the study models. Moreover, R^2 illustrates the regression analysis of the profitability value, the variable which we are trying to predict, our DV was measured in model 1a using EBITDA. In our case, R^2 is equal to 0.64 and Adj R2 equal to 0.61, which is close to the one, that means the regression analysis model is powerful and enables to calculate the value of profitability in a way that is very close to the characteristics of the company under study. Moreover, in model 1a results indicated that size of company in 2019 effect significantly the firm profitability in the contrary, in 2020 is insignificant.

However, the interaction variable S19_S20 where found has significant effect on from profitability that means there different between two years happened due to the current circumstances' companies going through. Regarding government debt results in three models with their interaction variable too, where with insignificant effect on profitability of the firm, that means the effect of the emergency support for the emerging companies do not appear yet cause it needs time to observe that effect unlike VAT effects which appear immediately in the short term as the previous study have said.

In model 2a our DV was measured in this model using EBIT. In this regard, R^2 is equal to 0.71 and Adj R2 equal to 0.68 higher than model 1a, that means the regression analysis model is very powerful and allows to estimate the value of profitability in a way that is very close to the company's characteristics under study. Results confirm that when we measure profitability using earnings before interest and taxes the associations between IVs and DV high. On the contrary of model 1a, model 2a and 3a results indicated that size of company in 2019 and 2020 also the interaction variable S19_S20 effect insignificantly the firm profitability. Regarding government debt in model 2a and 3a results in three models with their interaction variable too, where with insignificant effect on profitability of the firm.

In Model 4a we modify our sample and analysis to be suitable for treatments effects and continues outcomes. The sample consists of 226 firm-year observations as panel dataset over the period 2019–2020. Differences were observed from testing firm profitability between the two period for the years 2019–2020 after the VAT rate increase in 2020. The results are displayed in Model 4a, the results show that the years 2020 were, in general, the worst form the biggening as the crisis of COVID-19 start its effects on companies even before rise VAT. After rising VAT, a more relevant and significant finding is the negative impact on the profitability of Saudi firms arising after controlling for the VAT change.

Indeed, the negative coefficient for the variable ContVAT shows, on average, a decrease in profitability of Saudi firms of -2.16% (statistically significant at 1 percent level in years 2020 versus 2019). We specifically control the impact on KSA firm profitability for each of the years, 2019 and 2020. We found that the negative impact on KSA firms was more realized in the year 2020, the first year after the implementation of the VAT change 0.032, statistically significant at 1% level with the effect disappearing in 2019 not significant .

V CONCLUSION

The aim of this study was to estimate the consequences of imposing the new 15% VAT on the profitability of the KSA listed non-financial companies in various sectors. This study investigated that influence and the consequences using various statistical empirical approaches such as OLS, Wilcoxon signed-rank test and DiD. Within the analysis, data associated with 2019 was considered before the VAT increased and also prior to the discovery of COVID-19. Data from 2020 was then considered after the new 15% VAT was imposed and during the COVID-19 crisis. The outcomes of this paper explore the effects of the extraordinary rise of the KSA's VAT, asking whether it has verified an exclusively operative system of taxation in the KSA.

There are some policy implications for results of this paper, its outcomes were the extending of the theoretical and practical requirements for the VAT system. It is supported that VAT on transactions of commerce is however an tool of the macroeconomic impact on the budget revenues foundation. Previous studies outcomes designate that the hypothetical benefits of VAT do not essentially explain into exercise. In precise, in Saudi Arabia we hypothesis that the impression of the VAT on economic effectiveness be influenced by on the stage of advancement of the country. As global studies findings designated that the status of the advancement is extremely associated with reasons such as informal economy, tax evasion and tax capacity, which can rigorously undercut the efficacy of VAT. In this context, our findings support the hypothesis that in 2020 firms are, on average, less profitable than in 2019. Which means that a dramatic VAT increase significantly affects Saudi firm profitability in 2020, the effect even maybe more in the future due the continuous crisis of COVID-19. The imposed 10% VAT rise in 2020 has caused on average, a decrease in profitability of Saudi firms of -2.16%.

Moreover, previous studies cited that VAT is habitually born in mind as a solution that can replace raise much-needed revenue and the distortionary taxes for community expenditure, particularly in the developing countries[59]. In this context, our findings shows also that KSA used the VAT as a solution for COVID-19 consequences as KSA as one of the fastest emerging developing countries.

We underline the requirements to updating tax systems with VAT implementation, in order to advantage from the properties effectiveness of VAT in KSA. These implications constant with prior studies on development and taxation maintaining that the actual system of tax is not that which is conceded as regulation, but that which is managed .

Thus, it is critical to conduct this study to confirm that the management and employment of VAT in KSA obtain some attention as the implementation of VAT does, specifically since prior outcomes designate large gains in economic effectiveness from accepting a well-designed and well-enforced VAT. Our valuation of the impact of VAT increase on firms' profitability will be useful for governments and corporations to not only adjust their budget spending, but will also allow them to better regulate the markets and managing companies to observe tax system health. The government interventions accompanied

[59] Abramova et al (n 14).

with a steady and dependable investment strategy, are critical to the confidence of firms in times of uncertainty which help companies plan their future investments to make proper decisions.

BIBLIOGRAPHY

A *Articles/Books/Reports*

Abramova et al, 'The Ecosystem of VAT Administration in E-Commerce: Case of the Eastern Europe Countries' (2021) 39(5) *Studies of Applied Economics*

Acosta-Ormaechea, Santiago and Atsuyoshi Morozumi, 'The Value-Added Tax and Growth: Design Matters' (2021) *International Tax and Public Finance* 1

Adam et al, 'A Retrospective Evaluation of Elements of the EU VAT System: Final Report' (Report No TAXUD/2010/DE/328, FWC No TAXUD/2010/CC/104, Institute for Fiscal Studies, 2011)

Adhikari, Bibek, 'Does a Value-Added Tax Increase Economic Efficiency?' (2020) 58(1) *Economic Inquiry* 496

Ahmad Alkhodre et al, 'A Blockchain-Based Value Added Tax (VAT) System: Saudi Arabia as a Use-Case' (2019) 10(9) *Int. J. Adv. Comput. Sci. App*l 708

Alhussain, Meshari, 'The Impact of Value-Added Tax (VAT) Implementation on Saudi Banks' (2020) 12(1) *Journal of Accounting and Taxation* 12

Asogwa, F. O. and Okeke Mercy Nkolika, 'Value Added Tax and Investment Growth in Nigeria: Time Series Analysis' (2013) *IOSR Jounal of Humanities and Social Science*

Ballard, Charles L., John Karl Scholz and John B. Shoven, 'The Value-Added Tax: A General Equilibrium Look at its Efficiency and Incidence' in *The Effects of Taxation on Capital Accumulation* (University of Chicago Press, 1987) 445

Berardi, Nicoletta, Erwan Gautier and Hervé Le Bihan, 'Les Ajustements Individuels de prix à la Consommation en France: De Nouveaux Résultats sur la Période 2003–2011' (2013) 460(1) *Economie et Statistique* 5

Besley, Timothy and Anne Case, 'Does Electoral Accountability Affect Economic Policy Choices? Evidence from Gubernatorial Term Limits' (1995) 110(3) *The Quarterly Journal of Economics* 769

Boeters et al, 'Economic Effects of VAT Reforms in Germany' (2010) 42(17) *Applied Economics* 2165

Bogari, Adel, 'The Economic and Social Impact of the Adoption of Value-Added Tax in Saudi Arabia' (2020) 4(2) *International Journal of Economics, Business and Accounting Research* 62

Bondarenko et al, 'Risk Management of Enterprise Restructuring Strategy' (2020) 11(5) *International Journal of Advanced Research in Engineering and Technology*

Burton, Maureen and Bruce Brown, *Financial System of the Economy: Principles of Money and Banking: Principles of Money and Banking* (Routledge, 2014)

Bye, Brita, Birger Strøm and Turid Åvitsland, 'Welfare Effects of VAT Reforms: A General Equilibrium Analysis' (2012) 19(3) *International Tax and Public Finance* 368

Case, Anne C., Harvey S. Rosen and James R. Hines, 'Budget Spillovers and Fiscal Policy Interdependence' (1993) 52(3) *Journal of Public Economics* 285

Čížek, Pavel, Jinghua Lei and Jenny E. Ligthart, 'Do Neighbours Influence Value-Added-Tax Introduction? A Spatial Duration Analysis' (2017) 79(1) *Oxford Bulletin of Economics and Statistics* 25

Dubyna et al, 'Transformation of Household Credit Behavior in the Conditions of Digitalization of the Financial Services Market' (2021) 14(1) *Journal of Optimization in Industrial Engineering* 97

Ebrill et al, The Modern VAT (Report, 2001, International Monetary Fund)

Gautier, Erwan and Antoine Lalliard, 'How do VAT Changes Affect Inflation in France?' (2013) (32) *Bulletin de la Banque de France* 5

Giesecke, James and Nhi Hoang Tran, 'A General Framework for Measuring VAT Compliance Rates' (2012) 44(15) *Applied Economics* 1867

Golob, John E., 'How Would Tax Reform Affect Financial Markets?' (1995) 80 *Economic Review — Federal Reserve Bank of Kansas City* 19

Grigoraş-Ichim et al, 'Shaping the Perception and Vision of Economic Operators from the Romania-Ukraine-Moldova Border Area on Interim Financial Reporting' (2018) 173 *Economic annals-XXI*

Keen, Michael, 'The Anatomy of the VAT' (2013) 66(2) *National Tax Journal* 423

Keen, Michael and Ben Lockwood, 'The Value Added Tax: Its Causes and Consequences' (2010) 92(2) *Journal of Development Economics* 138

Kholiavko et al, 'Comprehensive Methodological Approach to Estimating the Research Component Influence on the Information Economy Development = Комплексний методичний підхід до оцінювання впливу дослідницької компоненти на розвиток інформаційної економіки' (2020) 178(4) *Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu*

King, Gary and Richard Nielsen, 'Why Propensity Scores Should Not Be Used for Matching' (Pt Cambridge University Press) (2019) 27(4) *Political Analysis* 435

Krever, Richard E., *VAT in Africa* (PULP, 2008)

Krever, Richard E., 'VAT and Financial Investments' in *VAT and Financial Services* (Springer, 2017) 189

Kristjánsdóttir, Helga, 'Tax on Tourism in Europe: Does Higher Value-Added Tax (VAT) Impact Tourism Demand in Europe?' (2020) *Current Issues in Tourism* 1

Kristjánsdóttir, Helga and Paula Remoaldo, 'Tourism in a Remote Nordic Region: VAT, internet, Oil, English, Distance, Hofstede, and Christianity' (2019) 5(1) *Cogent Social Sciences* 1709346

Kwilinski, Aleksy, Henryk Dzwigol and Vyacheslav Dementyev, 'Model of Entrepreneurship Financial Activity of the Transnational Company Based on Intellectual Technology' (2020) 24 *International Journal of Entrepreneurship* 1

Mateus, Cesario and Irina B. Mateus, 'Does a VAT Rise Harm the Tourism Industry? Portuguese Evidence' (2021) 83 *Tourism Management* 104234

Meer, Jonathan and Jeremy West, 'Effects of the Minimum Wage on Employment Dynamics' (Pt University of Wisconsin Press) (2016) 51(2) *Journal of Human Resources* 500

Орлова, Наталія Сергіївна and Алла Іванівна Іващенко, 'Comparative Analysis of Some EU and EU Associated Countries to Identify the Phenomenon of Business Development in Post-Socialist Countries' (2017) 163(1) *Економічний часопис-XXI* 22

Organisation for Economic Co-Operation and Development, 'Understanding Financial Accounts' (Report, 2017)

Piggott, John and John Whalley, 'VAT Base Broadening, Self Supply, and the Informal Sector' (2001) 91(4) *American Economic Review* 1084

Schenk, Alan, Victor Thuronyi and Wei Cui, *Value Added Tax* (Cambridge University Press, 2015)

Shkarlet et al, 'Infrastructural and Regional Development: Theoretical Aspects and Practical Issues' (2021) 38(4) *Studies of Applied Economics*

Sun, Chuanwang, Yanhong Zhan and Gang Du, 'Can Value-Added Tax Incentives of New Energy Industry Increase Firm's Profitability? Evidence from Financial Data of China's Listed Companies' (2020) 86 *Energy Economics* 104654

Tamaoka, Masayuki, 'The Regressivity of a Value Added Tax: Tax Credit Method and Subtraction Method—A Japanese Case' (1994) 15(2) *Fiscal Studies* 57

Thomas, Alastair, 'Reassessing the Regressivity of the VAT' (Working Paper, OECD Publishing, 2020)

Ufier, Alex, 'The Effect of VATs on Government Balance Sheets' (2017) 24(6) *International Tax and Public Finance* 1141–1173

Ufier, Alex, 'Quasi-Experimental Analysis on the Effects of Adoption of a Value Added Tax' (2014) 52(4) *Economic Inquiry* 1364

Wolfers, Justin, 'Did Unilateral Divorce Laws Raise Divorce Rates? A Reconciliation and New Results' (2006) 96(5) *American Economic Review* 1802

Woolson, R. F., 'Wilcoxon Signed-Rank Test' (2007) *Wiley Encyclopedia of Clinical Trials* 1

World Bank, 'Global Economic Prospects, June 2020' (Report, June 2020).

Zou, Jingxian, Guangjun Shen and Yaxian Gong, 'The Effect of Value-Added Tax on Leverage: Evidence from China's Value-Added Tax Reform' (2019) 54 *China Economic Review* 135

B *Other*

General Authority of Zakat and Tax, 'Value Added Tax' (2021) <https://gazt.gov.sa/en/RulesRegulations/VAT/Pages/default.aspx>

General Authority of Zakat and Tax, 'VAT Law' (2021) <https://zatca.gov.sa/ar/RulesRegulations/Taxes/Documents/SaudiVATlaw-bilingual%20(Logo)%2001%20copy.pdf>

General Authority of Zakat and Tax, 'ZATCA's Role' (2021) <https://zatca.gov.sa/en/AboutUs/Pages/default.aspx#:~:text=%E2%80%8B%E2%80%8BZATCA's%20role,comply%20and%20fulfill%20their%20obligations>

HOTREC, 'European Trade Association of Hotels, Restaurants and Cafes' (2021) <https://www.hotrec.eu/>

United States Congress Senate Committee on Banking, Housing and Urban Affairs, *United States Trade Policy and the Economy: Hearings Before the Committee on Banking, Housing, and Urban Affairs*, United States Senate, One Hundred and Second Congress, Second Session, to Review Some of the Major Causes of Our Current Economic Difficulties, and to Suggest Steps that the United States Can Take Now to Deal with These Problems (US Government Printing Office, 1992) vol 102