



The Effect of Changes in the Value-Added Tax Rate on Tax Compliance Behavior of Taxpayers in Indonesia: A Field Experiment

Agustine Dwianika¹(✉) and Badingatus Sholikah²

¹ Faculty of Humanities and Business, Universitas Pembangunan Jaya, Banten, Indonesia
agustine.dwianika@upj.ac.id

² Faculty of Economic and Business, Universitas Negeri Semarang, Semarang, Indonesia

Abstract. Increasing the value-added tax (VAT) rate has been identified as an option to increase tax revenue although the possible effect of changing the VAT rate on tax compliance behavior has not been determined. It is planned that the value added tax (VAT) rate will increase on April 1, 2022. The amount of the increase is from 10 percent to 11 percent. The increase in VAT rates follows the passage of Law Number 7 of 2021 concerning the Harmonization of Tax Regulations (UU HPP). While the HPP Law itself regulates the increase in VAT to 11 percent as of April 1, 2022, then it will be followed by an increase to 12 percent no later than January 1, 2025. The purpose of this VAT rate increase is an effort to increase tax revenue and create equality in tax payments. However, most people do not easily accept the 11 percent VAT rate increase.

Keywords: Tax compliance · VAT Rate · Taxpayers · Indonesia · Field Experiment

1 Introduction

Almost every government wants citizens to obey the rules, including tax obligations because tax revenue supports many government agendas. In Indonesia, there is currently an increase in Value Added Tax (VAT) for the first time in the last 38 years from 10% to 12%. Other countries, such as South Africa, increased tariffs from 14% to 15% in April 2018 after 15 years of not (Gigaba 2018; Go et al. 2005). Factors affecting tax compliance are relatively complex (Jackson and Miliron 1986; Kirchler 2007). Various things such as gender, education, income level, various deductions, occupation, ethics, fairness, the complexity of the tax system, and various other factors (Richardson and Sawyer 2001; Yong et al. 2019).

The study of the behavior of taxpayers changing rates is always interesting to discuss. The results are varied and some even report tax compliance (Alm et al. 1995); (Yitzhaki 1974) and also demonstrated a decline (Spicer and Becker 1980); (Jackson and McKee 1992); (Ottone et al. 2018). The aim of this research is to Examine the taxpayers' attitudes in responding to the increase in VAT rates that recently occurred in Indonesia. Due to

the lack of research related to taxpayers' responses in developing countries, this study can provide an overview of the responses to these tariff changes.

This study involved 302 online respondents in a field test while continuing to carry out pre-test and post-test on understanding related to tariff increases in a series of socialization activities from the Directorate General of Taxes at the Banten Regional Office in early June 2022. In addition, this study confirms the tendency of respondents in this case small businesses to maintain their tax compliance. Researchers identify whether changes in VAT compliance behavior are correlated with increases, or not.

This study considers the direction and magnitude of changes in the VAT rate because it has the potential to influence the respondent's tax compliance behavior. Practically, the results of this study are used as suggestions for global policymakers on how the impact of changes in VAT rates on tax compliance decisions. Meanwhile, the online field experiment employed in this study can be used as a reference for other studies that consider the effect of compliance behavior in Indonesia.

Small and medium enterprises are of particular concern. In Indonesia, it is regulated in Article 6 Paragraph 2 of Law no. 20 of 2008. Recently, People have registered their businesses at the Office of Industry, Trade, and Cooperatives, and Small and Medium Enterprises, so seeing the tax-abiding behavior of the impact of the VAT increase can broaden the special knowledge of this type of business entity. In addition, the literature review and theories that form the basis of further research need to be discussed more comprehensively. The study design is then discussed and continued with an analysis of the experimental results, before finally discussing future research.

There are 168 countries that use a VAT system, and the revenue generated by VAT accounts for nearly one-third of all taxes collected in OECD nations (OECD 2018). In a VAT system, taxes are collected based on how many goods and services are used. Vendor VAT (PKP) may be able to claim excessive taxes on expenses and/or payable taxes on income because the collection of VAT is purely a tax of personal knowledge.

Therefore, revenue authority agencies are collecting VAT from customers and pay it to the revenue authorities (SARS 2015). In Indonesia, VAT in 2021 will grow by 14.0%, while in 2020 it will be minus 12.73%. On a quarterly basis, domestic VAT receipts in the fourth quarter of 2021 grew 14.22%. Therefore, VAT is the key to boosting Indonesia's economic recovery after the pandemic. Actually, the effect of VAT on tax compliance has not been well known. While increased VAT rates may lead to higher tax collections, increased non-compliance may result in less revenue being collected.

On the other hand, lower tax rates may promote better tax compliance, which may also result in higher tax revenues being collected (Artavanis 2018). Therefore, to ascertain its effect on tax compliance, this study takes into account both the drop and increase in the applicable VAT rate. This study also emphasizes the behavioral behaviors of those running small business units. The impact of changing VAT rates on Indonesian tax compliance is the cause of this response.

Although taxpayers have been scrutinized for decades, there are divergent opinions on whether or not people follow tax regulations. The meta-analysis by Jackson and Miliron (1986), for example, noted that there was a trend toward a decline in voluntary tax compliance. According to a different survey, many taxpayers are sincere and wouldn't cheat the system even if they had the chance (Kristen and Alm 2014; Erard and Feinstein

1994; Gordon 1989). However, other research has typically shown that some people dislike paying taxes and would take any methods to do so, including engaging in unlawful activity (Alm and Torgler 2011; Cohen 2015).

The literature review on economic deterrence makes extensive use of ideas that were first created in theories intended to explain criminal conduct. The appropriate quantity of resources to be utilized to penalize criminal behavior, including tax evasion, was the subject of one of the earliest studies in the theory of criminal behavior by Becker (1968). The penalties include fines, incarceration, and even death. According to Allingham and Sandmo (1972), who expanded on Becker's theory and applied it to compliance behavior, compliance improves if there is a high likelihood of an audit or a large penalty for non-compliance. This is because people are less eager to pay more if they get caught.

It was also determined that raising tax rates would promote tax evasion because doing so would be more profitable, but the conclusions are unclear. Prospect theory states that when there is a chance of reward, people tend to avoid risk. In contrast, people tend to take more risks when they are in a losing situation, such as having to pay taxes (such as non-compliance). 2001 (Richardson and Sawyer).

Studies looking at how changes in tax rates, particularly in income tax rates, affect tax compliance provide a range of outcomes. For instance, based on his research, Clotfelter (1983) came to the conclusion that lowering tax rates would result in less reporting, which would increase compliance.

However, Feinstein (1991), in agreement with Yitzhaki, discovered through his econometric research that a higher marginal income tax rate reduces tax evasion (1974). According to a different study, raising income tax rates either results in increased tax compliance or at the very least discourages tax evasion (Alm et al. 1995; Anderhub et al. 2001). A limited number of studies have considered changes in VAT rates worldwide (Agha and Haughton 1996; Artavanis 2018; Laras and Weale 2009; Buchan et al. 2012; Harju et al. 2014; Matthews 2003; Miki 2011; Pagan et al. 2001; Pointon and Spratley 1998; Tijerina-Guajardo and Pagan 2000) and in South Africa in particular (Alderman and Del Ninno 1999; Erero 2015; Go et al. 2005); Jansen and Calitz 2017; Theron 2016; Van Oordt 2016).

The results of the empirical research are still inconclusive as to whether raising tax rates will have a beneficial or negative impact on tax compliance. In addition, while a few research have looked at the impact of changing VAT rates on tax compliance behavior, the majority of studies have focused on changes in income tax rates.

2 Method

This study aims to examine the impact of tax compliance behavior on small businesses when there is a change in VAT rates. Taxpayers do not admit that they are not complying with the law, asking for responses anonymously that allow them to find out about their tendency to do so (Alm et al. 1992); (Togel 2003). Experimental with behavioral causality becomes more certain because it keeps all factors more constant and only changes the variables to be tested with several treatments, namely if: 1). VAT increased by 5%; 2) VAT decreased by 5%;, 3). VAT increased by 1% or 4). VAT decreased by 1%.

This study implemented four times trial started by the introduction (Saunders et al. 2016), in which the respondents previously filling out demographic and business profiles anonymously. With these four treatments, each party explored the factors related to the important issues of increasing and decreasing VAT rates according to 1% and 5%. They filled in a score of 1–5 on the statements in the questionnaire and followed by deeper data collection at Focus Group Discussion (FGD).

The results of the treatment were analyzed, the pre-test and post-test were previously conducted before the information about how important taxes are conveyed, and the VAT increase policy was just initiated by the DGT in April 2022. Further conclusions and confirmations are made on theories. In addition, the contributions are expected to benefit further research and policymakers.

3 Discussion and Analysis

In the first two treatments, a pilot study was carried out to ensure that the participants really understood the context of the discussion and paid attention to the experimental questions (Libby et al. 2002). The independent effect of the rate change on tax compliance are compared to a dependent variable (Leedy and Ormrod 2015; Sekaran and Bougie 2013). Group 1 consisted of 77 people, group 2 consisted of 75 people, group 3 consisted of 75 people as well as group 4. Two people from the first group were taken as a very early experiment to ensure they had attention to the issues explored by the researcher.

Selecting an organization that can register VAT in Indonesia is important for this online field trial (Shadish et al. 2002). Small firms are the target demographic since SARS has found non-compliance, particularly in that sector (SARS 2012). So long as their company generates a gross income that meets the requirements of Indonesian business law, participants are eligible to take part in this experiment. In this study, Sanders et al. (2016), who conducted an experimental study with voluntary sampling and a focus on convenience to make it simpler to contact participants, are referred to.

Additionally, the experiment's links were shared on the researcher's social media platforms and delivered to various study participants via Zoom links. Additionally, all participants were requested to share the link with relatives or acquaintances who could participate in the study (snowball sampling) (Saunders et al. 2016). The experiment was carried out between April and June of 2022. A total of 302 of the 339 total responses received were legitimate. The sample size collected is deemed to be enough. This is due to the fact that 15–30 people per treatment group typically make up an experimental research sample size (Daniel 2012; Hogan et al. 2013; Kim et al. 2005; Rupert et al. 2003).

Experiments are efficient methods for identifying if and in which direction causal relationships exist (Maines et al. 2006). The direction of the link between tax compliance and changes in VAT rates is measured in this study to ascertain if it moves in one direction or the other. When assessing whether participants are more or less likely to comply when exposed to a five percentage point change in the VAT rate as opposed to a one percentage point change, this magnitude is also taken into consideration.

With the aid of IBM SPSS Statistics 26, the data were examined. The data were given descriptive statistics, which were then put to the test using statistical inferential methods.

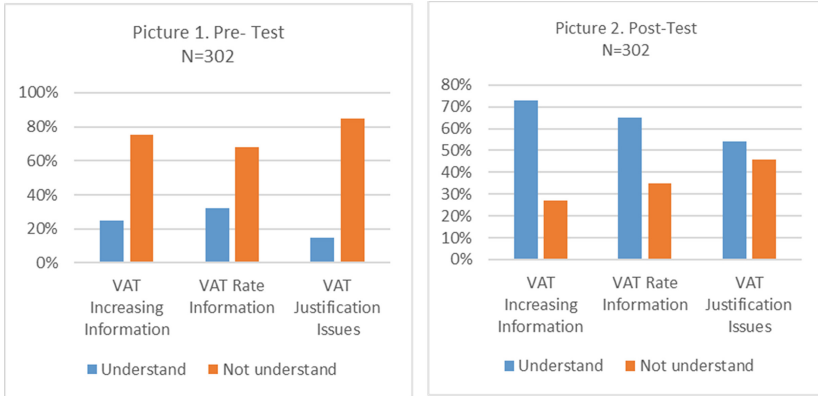


Fig. 1. Participant's Post-test and Pre-Test Results

Nonparametric techniques were employed since the data were not normally distributed, and a factorial ANOVA was deemed inappropriate for a single variable. The Wilcoxon marked rating test is used to assess how changes in the direction of VAT rates may affect tax compliance. This test is used to identify group differences. This non-parametric test, which is used to determine whether there is a difference between the median of paired and unpaired observations, is employed when the data are not normally distributed. The overall test results showed that neither the median differences nor the group background were significant.

Because participants were tested four times on the same variable at various VAT rates, this sort of test was deemed appropriate. The Mann-Whitney test, a ranking-based nonparametric test that may be used to evaluate whether there is a difference between two groups in the continuous or ordinal dependent variable, was undertaken to examine the effect of changes in VAT rates on tax compliance (Laerd Statistics 2018). This test is excellent because there must be a difference between the two groups—participants in the treatment group must not be the same as those in the control group—and the data are not normally distributed (hence, parametric measures cannot be employed).

Figure 1 showed that respondents' ignorance of information about the VAT increase, the latest VAT rates, and the reasons for the VAT increase is still high, but it is decreased after socialization with online media through Zoom Meetings, as shown in Fig. 2.

The responses of the participants varied greatly from group 1 to group 4, but in general, they preferred lower rates to higher rates. The reason for the recovery of operating profits after the pandemic is the main reason. They still accept if the increase is gradual and not more than 5%, but in sufficient time, not in a hurry. They understand that the government needs additional tax revenue, but the government should not do it urgently. It is worried that if businesses have not recovered but rates have soared, it actually causes entrepreneurs to tend to commit tax violations, either directly or indirectly.

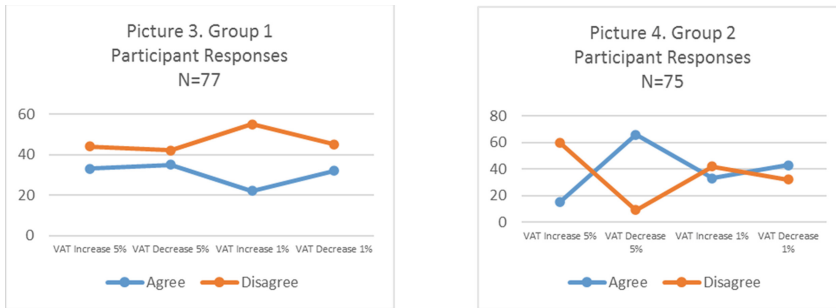


Fig. 2. Participant Response

4 Conclusion

When the VAT rate is raised, corporate entities often decrease their VAT burden by overstating purchases rather than understating sales, according to statistical analysis of the experiment's data. As a result, there is more non-compliance. The level of non-compliance increases in direct proportion to the VAT rate increase. On the other hand, there was no proven connection between tax compliance and the drop in VAT rates.

The results of in-depth interviews with participants suggest that tariff increases tend to be unwelcome, but they perceive an increase of 1% as not having much effect on their consumption unless it is 5% or above. The increase in VAT is considered too hasty in times of economic recovery, but if it is gradual then it still makes sense. The expected stage ranges between 2–4 years later, as these small businesses restore their economic capacity after the pandemic. This information is important for the policymakers in the evaluation process of launching a gradual VAT increase in the future. However, the results may not be generalizable because the focus of this research is on small businesses, it will be different if it is carried out on large-scale businesses. Thus, further research is needed on all types of businesses, even at the Asia Pacific level.

Acknowledgments. We thank to Tax Center at Universitas Pembangunan Jaya and Directorate General of Taxation for supporting research process.

References

1. OECD.(2018). Tax Policy Reform 2018. OECD Publishing, Paris.
2. Alm, James & Sanchez, Isabel & Juan, Ana. (1995). Economic and Noneconomic Factors in Tax Compliance. *Kyklos*. 48. 3-18. <https://doi.org/10.1111/j.1467-6435.1995.tb02312.x>.
3. Vital Anderhub, Sebastian Giese, Werner Güth , Antje Hoffmann and Thomas Otto.(2001). Tax Evasion with Earned Income - An Experimental Study. *FinanzArchiv: Public Finance Analysis*, 2001, vol. 58, issue 2, 188.
4. Agha, Jonathan Haughton.(1996). Designing VAT systems: some efficiency considerations. Published 1 May 1996 *Economics*. The Review of Economics and Statistics.

5. Ho, D.M., Guruharsha, K.G., and Artavanis-Tsakonas, S. (2018). The Notch Interactome: Complexity in Signaling Circuitry. *Adv. Exp. Med. Biol.* 1066:125-140.
6. Ada Jansen and Estian Calitz (2017). Considering the efficacy of value-added tax zero-rating as pro-poor policy: The case of South Africa. *Development Southern Africa*, 2017, vol. 34, issue 1, 56-73
7. Bolt, Wilko & van Oordt, Maarten. (2019). On the Value of Virtual Currencies. *Journal of Money, Credit and Banking*. 52. <https://doi.org/10.1111/jmcb.12619>.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

