# How to select tax audit cases?: a literature review of research in tax avoidance

**Muhammad Rheza Ramadhan[1*]**

[1]Directorate General of Tax of Republic of Indonesia
*Email: rhezakz@gmail.com

**ABSTRACT**

Currently, DGT is experiencing a shortage of tax auditors. As a result, DGT was unable to meet the tax collection goal. This issue, I think, may be addressed by developing a tax audit case selection model. This model employs the tax avoidance variable, which is assessed by the amount of adjustment in the modified tax assessment, as well as various factors classified as company characteristics, firm activities, and BOD characteristics. To develop this model, DGT should alter the format of tax returns in order to get the necessary information from taxpayers. Then, DGT must choose an analytical technique to evaluate the data. Because DGT has a large amount of data, I suggest utilizing the big data analytics approach, and I think that the regression model is outdated. So, I think that this approach will be useful in making DGT better in the future, since DGT may find it simpler to pick tax audit cases that will have a significant effect on tax collection. Unless DGT creates this paradigm, I think DGT will be unable to achieve its goal indefinitely. This article aims to describe certain tax avoidance measures and some tax avoidance factors that will be helpful in developing a tax audit case selection model. Furthermore, I'd want to show how DGT might evaluate such determinants in order to construct a suitable model.

**Keywords:** Tax Avoidance, Tax Revenue, Big Data Analytics

## 1. INTRODUCTION

Nowadays, it has been more than ten years that the Directorate General of Tax (DGT) cannot achieve its revenue target. It is caused by tax avoidance and tax evasion in Indonesia. As reported by Tax Justice Network (2020), the expected loss of Indonesian Tax Revenue generated by tax avoidance is approximately US$ 4.86 billion per year or IDR 68.7 trillion per year. One of the causes of this fact is the low tax audit coverage in Indonesia. DGT (2020) reported that the tax audit coverage ratio in 2019 for the corporate taxpayer was only 2.44, while for the personal taxpayer was just 1.08%. It is still below the tax audit coverage ratio of other countries in ASEAN. For example, Malaysia had a 22% tax audit coverage ratio for corporate taxpayers and 24% for personal taxpayers (OECD, 2019).

So, almost one of five taxpayers in Malaysia will be audited every year. This problem is caused by the lack of tax auditors in Indonesia. DGT (2020) reported that DGT only has 6,516 tax auditors, whereas the registered taxpayers are about 44 million taxpayers. Therefore, based on those problems, I believe that DGT should choose tax audit cases that significantly impact the tax revenue target. In addition, DGT needs a model to select tax audit cases based on tax avoidance and tax evasion determinants so that it can be easy to choose the right taxpayers who want to be audited. This essay will describe some tax avoidance measurement and several determinants of tax avoidance that will be useful to create a tax audit cases selection model. Moreover, I also want to explain how DGT could analyze those determinants to build a proper model.

## 2. MEASURING TAX AVOIDANCE

When we discuss making a tax audit cases model, the first question is how to measure tax avoidance? Researchers propose several ways to measure tax avoidance like effective tax rates, long-run effective tax rates, unrecognized tax benefits, and tax shelter firms (Hanlon and Heitzman, 2010). However, I believe that all of those measurements are not proper to measure tax avoidance in Indonesia since all of those measurements use financial reports and tax returns reported by taxpayers, which are not assessed by tax auditors.

Therefore, as far as I am concerned, tax authorities have to use data that has been assessed by them, such as audited tax returns. Lanis and Richardson (2011) used amended tax assessment issuance as a proxy of tax avoidance. They use a dummy variable, which will be scored one if there is an amended tax assessment and will be scored 0 if there is no amended tax assessment. Basically, I agree with Lanis and Richardson (2011). However, it could be modified to better measure tax avoidance by using the amount of correction in those amended tax returns. This amount will be divided by tax expense before amended to get the percentage of correction that is more suitable to measure tax avoidance.

## 3. THE DETERMINANT OF TAX AVOIDANCE

After we discuss measuring tax avoidance, the next step is identifying the determinants that affect tax avoidance. We could divide those determinants into three parts.

Firstly, several researchers found that firm characteristic could be determinants of tax avoidance. Rego (2003) argued that several financial reports items like the total asset, profitability measured by Return on Asset, and leverage measured by Debt to Asset ratio could be signs of whether taxpayers do tax avoidance or not. In addition, Higgins et al. (2014) explained the association between a firm's business strategy and tax avoidance. They found that the prospectors did more tax avoidance than defenders and analyzers. They said that if prospectors could not find an opportunity to do more significant tax planning, they would find other opportunities to get the advantages from tax regulations. Furthermore, Kim and Zhang (2015) found a strong connection between political connection and tax avoidance. This condition was caused by the affordable cost of tax avoidance that must be paid by the taxpayers with political connection.

Secondly, some studies said that firm's activities could influence tax avoidance. Lanis and Richardson (2012) found that corporate social responsibility activities strongly negatively influence tax avoidance. They found that the fewer corporate social responsibilities are done by taxpayers, the more probability of tax avoidance in the future. Moreover, Argiles-Bosch et al. (2020) found a significant association between e-commerce utilization and tax avoidance. They argued that the taxpayers using e-commerce tools have more probability of avoiding tax

than traditional taxpayers. In addition, Taylor and Richardson (2012) believed that transfer pricing and thin capitalization were correlated by tax avoidance. They also found that transfer pricing was the most crucial determinant of tax avoidance while thin capitalization was a less significant factor.

Thirdly, several social scientists argued that board of directors (BOD) characteristics could affect tax avoidance. Lanis et al. (2015) found a negative association between female Directors with tax avoidance. It means that the existence of females on BOD could decrease the probability of tax avoidance. Additionally, Law and Mills (2015) said that the taxpayers led by directors with military experience were more conservative in tax planning since they believe that tax avoidance was an unethical action. Furthermore, Wen et al. (2020) found that director with foreign experience was negatively correlated with tax avoidance especially when the directors came from countries with stricter tax law enforcement.

On the other hand, Niniek et al. (2018) argued that the supervision of Board of Commissioner was not a determinant of tax avoidance in Indonesia. So, the further research will be needed to assess the influence of all variables that I have said above to tax avoidance in Indonesia since Indonesia taxpayers might have different characteristics with other taxpayers in other countries.

## 4. THE METHOD TO ANALYZE AND GATHER THE DATA

After we know about the measurement and the determinants of tax avoidance, DGT should change the form of the tax return to fulfill the data needed to build a good model. For example, in the current tax return, there is no data about the background of taxpayers' directors, the utilization of e-commerce, and so on. Therefore, if DGT wants to use the determinants that I have mentioned, the change of tax return form is a compulsory action.

Moreover, after DGT has all of the required data, DGT should choose the method to analyze those data. In the past, the researchers like Rego (2003) and Richardson et al. (2015) used regression to make the model of tax avoidance (and also transfer pricing aggressiveness). However, I believe that DGT has to use big data analysis as there is so much data that DGT will analyze.

Several researchers have done their work about big data analysis for tax purposes. For example, Tian et al. (2016) used the Colored Network-Based Model (CNBM) to detect tax evasion. Also, Cheng et al. (2014) proposed the machine learning method (unsupervised learning and supervised learning) to detect tax evasion. So that, I believe that DGT should use the big data analysis method to make a more accurate model for choosing tax audit cases in Indonesia.

# 5. CONCLUSION

To conclude, currently, DGT has the problem of lacking tax auditors. It caused DGT could not achieve the tax revenue target. I believe that this problem could be solved by creating tax audit cases selection model. This model uses the tax avoidance variable measured by the amount of correction in amended tax assessment and several determinants divided into firm's characteristics, firm's activities, and BOD's characteristics. To create this model, DGT should change the form of tax returns to get the required data from taxpayers. Then, DGT should choose the analytical method to analyze those data. I propose using the big data analytics method since DGT has a big data size, and I believe that the regression model has obsoleted. So, I believe that this model will be helpful to make DGT better in the future since DGT could be easier to select tax audit cases that could make a big impact to tax revenue. Unless DGT makes this model, I believe that DGT could not realize its target forever.

# REFERENCES

Argilés-Bosch, J. M., Somoza, A., Ravenda, D., & García-Blandón, J. (2020). An empirical examination of the influence of e-commerce on tax avoidance in Europe. Journal of International Accounting, Auditing and Taxation, 41, 100339. https://doi.org/10.1016/j.intaccaudtax.2020.100339

Cheng, H., Lu, Y. C., & Hsu, C. C. (2014). A visualized data analysis for bogus business entity detection. 2014 IEEE International Conference on Big Data (Big Data). Published. https://doi.org/10.1109/bigdata.2014.7004407

Corporate social responsibility and tax aggressiveness: an empirical analysis. (2012). Strategic Direction, 28(5). https://doi.org/10.1108/sd.2012.05628eaa.009

Directorate General of Taxes of Republic of Indonesia. (2020). Laporan Tahunan Direktorat Jenderal Pajak Tahun 2019. https://pajak.go.id/sites/ default/ files/ 2020-12/Laporan %20 Tahunan%20DJP%202019%20-%20INDONESIA.pdf

Hanlon, M., & Heitzman, S. (2010). A Review of Tax Research. SSRN Electronic Journal. Published. https://doi.org/10.2139/ssrn.1476561

Higgins, D., Omer, T. C., & Phillips, J. D. (2014). The Influence of a Firm's Business Strategy on its Tax Aggressiveness. Contemporary Accounting Research, 32(2), 674–702. https://doi.org/10.1111/1911-3846.12087

Kim, C. F., & Zhang, L. (2015). Corporate Political Connections and Tax Aggressiveness. Contemporary Accounting Research, 33(1), 78–114. https://doi.org/10.1111/1911-3846.12150

Lanis, R., & Richardson, G. (2011). The effect of board of director composition on corporate tax aggressiveness. Journal of Accounting and Public Policy, 30(1), 50–70. https://doi.org/10.1016/j.jaccpubpol.2010.09.003

Lanis, R., Richardson, G., & Taylor, G. (2015). Board of Director Gender and Corporate Tax Aggressiveness: An Empirical Analysis. Journal of Business Ethics, 144(3), 577–596. https://doi.org/10.1007/s10551-015-2815-x

Law, K. K. F., & Mills, L. F. (2016). Military experience and corporate tax avoidance. Review of Accounting Studies, 22(1), 141–184. https://doi.org/10.1007/s11142-016-9373-z

Niniek, A., Riandoko, R., & Ramadhan, M. R. (2018, January). The Impact of Supervision Characteristics of Board of Commissioners on Tax Aggressiveness. In Atlantis Press (Ed.), Advances in Economics, Business and Management Research (AEBMR) (pp. 147– 160). https://www.researchgate.net/ profile/ Muhammad- Rheza/publication/ 323710780 The Impact _of_ Supervision_ Characteristics_of_ Board_of _ Commissioners_on_Tax_Aggressiveness/links/5ac18ce9a6f dcccda65ded12/The-Impact-of-Supervision-Characteristics-of-Board-of-Commissioners-on-Tax-Aggressiveness.pdf

OECD. (2019). Tax Administration 2019 Comparative Information on OECD and Other Advanced and Emerging Economics. OECD Publishing. https://doi.org/10.1787/74d162b6-en.

Rego, S. O. (2003). Tax-Avoidance Activities of U.S. Multinational Corporations*. Contemporary Accounting Research, 20(4), 805–833. https://doi.org/10.1506/vann-b7u b-gmfa-9e6w

Tax Justice Network. (2020, November). The State of Tax Justice: Tax Justice in the Time of CO ID-19. https://taxjustice.net/wp-content/uploads/2020/11/The Stat of Tax Justice 2020_ENGLISH.pdf

Taylor, G., & Richardson, G. (2012). International Corporate Tax Avoidance Practices: Evidence from Australian Firms. The International Journal of Accounting, 47(4), 469–496.https://doi.org/10.1016/j.intacc.2012.10.004

Tian, F., Lan, T., Chao, K. M., Godwin, N., Zheng, Q., Shah, N., & Zhang, F. (2016). Mining Suspicious Tax Evasion Groups in Big Data. IEEE Transactions on Knowledge and Data Engineering, 28(10), 2651–2664. https://doi.org/ 10.1109/tkde.2016.2571686

Wen, W., Cui, H., & Ke, Y. (2020). Directors with foreign experience and corporate tax avoidance. Journal of Corporate Finance, 62, 101624. https://doi.org/10.1016/j.jcorpfin.2020.101624