Factors Affecting Tax Gap: Evidence from Tax Audit Cases

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Abstract

Tax non-compliance activities occur around the globe and lead to the tax gap that is continuously regarded as an unsolved issue. There is a critical need to investigate the root cause which contributes to the tax gap so as to execute an effective plan to solve the problem. This study investigated factors that affect the tax gap such as frequency of audit, business size, role of tax agent, and strategies used to underreport income. The samples of the study were collected from the tax audit cases. The results of this study provided evidence of a significant tax gap between the reported taxable income and audited taxable income. The finding showed that taxpayers who had prior audit experience were more compliant compared to those who were audited for the first time. Thus findings found that frequent audit activities will reduce the tax gap effectively. Further, larger businesses were more tax compliant compared to small businesses. This finding also disclosed positive effect of tax agent who is also proven to reduce tax gap. The regression analysis indicated that typical strategies used by tax defaulters in committing tax fraud, namely underreporting of sales, overclaim purchases, overclaim expenses, ineligible capital allowance and other strategies, had significantly influenced and contributed to the tax gap. Thus, this study provided valuable information for the tax authority to identify the profiles of potential tax defaulter so as to formulate effective strategies to deter tax non-compliance activities and reduce the tax gap.

Keywords: Tax compliance, tax gap, tax audit

1. INTRODUCTION

In Malaysia, the national revenues were collected from three main sources which are Federal revenues, State revenues, and Local Government revenues. The money from these sources derived from various taxes such as direct tax and indirect tax. Direct tax consists of income tax, petroleum tax, stamp duties, and real property gain taxes of which are collected and administered by the Inland Revenue Board of Malaysia (IRBM). Based on tax collection statistics extracted from IRBM annual reports for the period of 2010 to 2014, more than half of the total Federal revenue was collected from direct tax. Meanwhile, corporate income tax was the major contributor which represents about 50 percent of the direct tax (Sapiei, Kasipillai&Eze, 2014).

During self assessment tax system (SAS), enforcement activities, in particular tax audit is regarded as the primary strategy taken by the IRBM in ensuring a high level of tax compliance (Singh, 2005). The taxpayers are considered as being non-tax compliant if they fail to submit a complete tax return within the stipulated time or not even submitted the tax return. The taxpayers are also perceived have not complied with the tax law if they commit to under-declare their taxable income or claiming a false deduction (Kasipillai&Shanmugam, 1996).
The major concern of tax non-compliance problem is it will cause a tax gap or loss of revenue to the government. In Malaysia, the records from IRBM annual reports for the period of year 2000–2014 showed that the intensive audit rate each year is followed by the significant amount of additional tax and penalty. This may imply that the level of tax non-compliance is a serious matter of concern despite intensive rate of tax audit activities. Furthermore, IRBM reported that 14 percent of the total resolved audit cases for the year 2015 in Klang valley comprised of taxpayers who had already been audited previously. This had raised a concern whether tax audit was effective as a deterrence effect towards tax non-compliance as well as enhancing higher level of tax compliance.

In relation to this matter, an issue has arisen on the identification of the causes of tax non-compliance in order to address the overwhelming issue. Thus, the objectives of the study are investigate factors that affect the tax non-compliance (proxy by the tax gap) such as frequency of audit, business size, role of tax agent, and strategies used to underreport income. The outcome of this study will enhance the quality of IRBM operations, monitoring activities and strategies especially in selecting audit cases, and determining the scope of audit examinations. In addition, the current study also examined the frequency of audit towards the tax gap among the tax defaulters.

2. LITERATURE REVIEW

2.1 Tax Compliance

In 2001, the self assessment system (SAS) was implemented on corporate taxpayers which replaced the previous system named official assessment system (OAS). The key factor that will determine the success of SAS is the level of voluntary tax compliance among the taxpayers. Tax compliance can be defined as a person’s act of filing their tax returns, declaring all taxable income accurately, and disbursing all payable taxes within the stipulated period without having to wait for follow-up actions from the authority (Singh, 2005). Though, the issue of tax compliance has been the focus of many scholars in the previous literatures since the tax non-compliance activities is continuously regarded as an unsolved problem which will cause a tax gap.

2.2 Tax Gap

Tax gap means the difference of total amounts of taxes owed to the government and the tax payment actually received (Tax Policy Centre, 2016). The tax gap also can be distinct to three types of non-compliance as below (Dubin, 2012):

i. underreporting, referring to the amount of tax revenue being lost due to underreporting of taxes owed from tax payers who submitting their tax returns;

ii. underpayment, referring to the difference between the amount of declared tax and amount that has been paid for correctly filed tax returns;

iii. non-filing, referring to the amount of tax revenue being lost due to no submission of tax returns by the eligible tax payers.

As a consequence of tax non-compliance, the government will suffer a loss of tax revenues.

2.3 The Impact of Tax Audit towards Tax Compliance

Tax audit is a process of determining and judging whether the tax payers adhered to the tax rules and regulations (Kirchler, Hoelzl & Wahl, 2008). It involves a process of verifying and validating the taxpayer’s records and documentation to ensure that those documents are sufficient to explain and justify the true and fair income and expenses transactions in the taxpayers’ records (Awe, 2008).

Many researches provide evidences that audit is deemed as an effective tool in promoting tax compliance. For example, audit is deemed as among the compliance strategies that can effectively enhance tax compliance (Ebinomobowei & Gbalam, 2013). It is further supported that effective tax audit can ensure taxpayers to become more compliant after being audited as compared to those who have never been audited (Jackson & Jaouen, 1989; Shanmugam, 2003 & Dubin, 2004).

2.4 Corporate Taxpayers and Tax Gap

Prior study proved that firms around the world were involved in illegal under-reporting activities (Tedd, 2010). This was supported by a finding that the tax gap was estimated about 13 percent of "true" tax liability (Hanlon, Mills & Slemrod, 2007). A study in Malaysia also found the existence of illegal tax non-compliance activities in corporate sectors (Md Noor, Mastuki, Ismail & Abdul Aziz, 2009). Hence, it is proven that tax non-compliance remains an unsolved and critical issue occurred in many countries.
2.5 Frequencies of Audit and Tax Gap

Prior literatures unarguably conclude that tax audit can improve the voluntary tax compliances through general deterrence (Tagkalakis, 2013; and Loo, Mckerchar & Hansford, 2009). However, other studies stated that the probability of an audit may have a positive impact on tax compliance but the deterrent effects are not encouraging (Alm, McClelland & Schulze, 1992). Furthermore, the marginal effectiveness of tax audits had reduced and not as effective in promoting general deterrence as in the past (Dubin, 2012).

Past study had provided the crucial effect of tax audit experiences or frequency of tax audit (Spicer & Hero, 1985). The result of the study showed a positive and significant relationship between tax compliance and the frequency of prior audit experiences. It is proven that tax payers whom have been audited will decrease their levels of evasion. This positive finding is also echoed by the same finding which resulted from the study in United States (Long, Susan & Richard, 1987). The study examined the tax reporting behaviour by using the audit data collected from IRS Taxpayer Compliance Measurement Program (TCMP) database. The data being analysed comprised 2,171 taxpayers who were subjected for tax audit in year 1969 and 1971. The results showed that the overall frequencies of non-compliances in 1971 were significantly reduced as compared to non-compliance results in year 1969.

2.6 Business Size and Tax Gap

Past studies provide significant evidences on the influence of firm size towards tax non-compliances. For example, a study in United States indicated that larger firms are more likely to evade tax as compared to small size companies (Joulfaian, 2000). It is because the companies’ non-tax compliance decisions were influenced by their managers who also evade their personal income taxes. It is further supported by a finding that non-compliance activities increased along with the size of the firm (Hanlon, Mills & Slemrod, 2007). Meanwhile, other study also found that the highest amount of tax gap was mostly contributed by large companies (Kourdoumpalou & Karagiorgos, 2012).

In contrast, there are few studies argued that firm size was negatively related to tax non-compliance. The findings showed that smaller firms are more likely to underreport their tax as compared to larger size companies (Tedd, 2010). The reason for this claim was that it easier for small size firms to conceal income and not be detected (Nur-Tegin, 2008). Furthermore, small size companies tend to report a lower amount of their true income because of their nature of business that use cash in making business transactions (Gauthier & Reinikka, 2001). In Malaysia, there is also study that provides evidence of significant influence of firm size towards tax non-compliances (MohdNor, Ahmad & MohdSalleh, 2010). In particular, the study found that larger companies are more compliant towards tax regulation as compared to smaller companies.

2.7 Role of Tax Agent and Tax Gap

There were several motivations and reasons for the appointment of tax agents. For example, tax agents were deemed to have skills and knowledge which in turn lead their clients to peace of mind and efficiency (HM Revenue and Customs Research Report, 2015). Other reasons are due to the taxpayers’ lack of knowledge in tax regulations as well as unavailability of qualified and skilled workers to handle the tax matters (Factor affecting small and mid-sized business’s choice of tax agent, 2015). In contrast, smaller or sole traders were the group of businesses who did not acquire the professional services from tax agents due to financial constraints.

Besides that, it is found that larger and more complexed companies acquired non-audit services (including tax services) more than companies which seek only auditing service from their auditors (Alexander & Hay, 2013). Prior study had provided an evidence of positive result in using tax agent services (Nienenber, 2010). In particular, the study found that tax agents with relevant qualifications would ensure less adjustment to be made for the tax returns they had prepared. Thus, tax agents were deemed to have a vital and direct influence on their clients’ compliance towards tax regulations.

2.8 Strategies to Conceal Income

Tax underreporting issues are often difficult to prove. Thus, it is crucial to identify the determinants which lead to tax non-compliance (Kirchler, 2007). Tax evasion strategies rely on non-disclosure of facts, while tax avoidance is more towards manipulating and exploiting the loopholes in tax law to reduce the tax liabilities (McBarnet, 1991). It is also believed that the legality of strategies used by businesses to reduce the tax burdens is influenced
by the efficiency of the tax system itself (Abel Ebeh Ezeoha Ebele Ogamba, 2010). As a consequence to the inefficiency of the tax system, firms tend to adopt an illegal strategy with a purpose of shielding tax liabilities.

There are five basic strategies usually adopted by tax payers to avoid paying tax (Mansfield, 1994). First, the taxpayers can use the “stretching out” method by purposely creating situations to enable them to be eligible to enjoy the tax reliefs, allowances, and exemptions. Second, one can exploit the accrual accounting for “smoothing out” the income that will result into smaller tax bill. It can be done by separating the income to be reported over two or more years of assessment rather than in one single year of assessment. The tax bill will be reduced if there is a difference in the tax rates between the reporting years of assessments. Third strategy would be “cancelling out” method of which taxpayers may exploit the expenditure to be offset against income as well as business losses against gains. Fourthly, one also can use the “moving out” strategy by focusing on the tax freedom opportunities in tax havens. The fifth strategy is “making out” method of which taxpayers purposely make a scheme where certain income belonging to one business will be taxed to their other businesses. Therefore, it is understood that the strategies explained in the study were involving sales or income, purchases or expenses, tax relief, allowances as well as tax exemptions.

In Malaysia, there were few strategies being adopted by the tax defaulters in concealing their income. The strategies are understating the reported sales, overstating and claiming of fictitious purchase, stock adjustment, unallowable claim of expenses, claim of capital allowances which were not eligible under the act, transfer pricing issue, and other strategies such as omission of other income (Mohd Nor, Ahmad & Mohd Salleh, 2010).

3. RESEARCH METHODOLOGY
3.1 Data Collection

The purpose of this study is to identify the influential factors which affect the tax gap. For this purpose, the data collected from tax audit cases completed during the year 2015. Data pertaining to additional and reported tax were used to determine the tax gap. Meanwhile, data attributed to frequency of audit, appointment of tax agent, and items of audit findings enable this study to determine the factors affecting the tax gap.

3.2 Empirical Model and Variables Definitions

The empirical model in this study is stated as follows:

\[ \text{TAXGap} \text{ Ratio} = \beta_0 + \beta_1 \text{Daudit} + \beta_2 \text{Dsize} + \beta_3 \text{Dagent} + \beta_4 \text{Dsales} + \beta_5 \text{Dpurchase} + \beta_6 \text{Dexpenses} + \beta_7 \text{Dcapital} + \beta_8 \text{Dete} + \varepsilon \]

Where, TAXGap_Ratio is dependent variable; measured as additional tax divided by actual tax after audit; \( \beta_0 \) is the intercept; Daudit is independent variable, represent as dummy variable which has been coded as ‘1’ for company which had prior audit experience, while coded ‘0’ for company which audited for the first time; Dsize (size of business) is also independent variable, measured by log of total asset; Dagent is also independent variable, represent as dummy variable which has been coded as ‘1’ for company which engage tax agent, while coded ‘0’ for company without tax agent; Dsales is the amount of sales understatement detected by IRBM, measured by understatement of sales divided by actual income after audit; Dpurchase is the amount of purchase overclaimed detected by IRBM, measured by overclaimed of purchased divided by actual income after audit; Dexpenses is the amount of expenses overclaimed detected by IRBM, measured by overclaimed of expenses divided by actual income after audit; Dcapital is the amount of ineligible claim of capital allowance detected by the tax authorities, measured by ineligible of capital allowance divided by actual income after audit; Dete is the amount of other strategies (include withholding tax, donation, transfer pricing issues and other adjustments) detected by the tax authorities, measured by the adjustment amount involved divided by actual income after audit; \( \varepsilon \) is an error term.

4. RESULTS OF THE STUDY
4.1 Descriptive Statistics

Table 1 presents the descriptive analysis for all the explanatory variables under study. The analysis shows that the mean tax gap ratio is RM0.13 with a minimum score of “0” and maximum score of “1”. The minimum score of “0” implied that the audited cases are without any findings or additional tax which is also known as tax gap. The data of total assets transformed to log of total assets as measurement for business size for the purpose of statistical analysis. The mean score for the log of total assets was 6.3806 while the minimum and maximum scores were 1.04 and 10.82 respectively. In relation to the variable of strategies in concealing income, there are five strategies included in this study namely underreporting of sales, overclaim of purchases, overclaim of expenses,
ineligible capital allowances, and other strategies. The measurement of these variables was represented by amount of tax adjustment divided with the actual income after audit to derive with a ratio for statistical analysis. The mean value for all five strategies were 0.038406 (underreporting of sales), 0.033042 (overclaim of purchases), 0.072480 (overclaim of expenses), 0.005727 (ineligible capital allowances), and 0.011486 (other strategies).

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Std. deviation</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tax gap ratio</td>
<td>0.13</td>
<td>0.146</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Frequency of Audit</td>
<td>0.08</td>
<td>0.278</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Log of Total Asset (size)</td>
<td>6.3806</td>
<td>0.73302</td>
<td>1.04</td>
<td>10.82</td>
</tr>
<tr>
<td>Tax Agent</td>
<td>0.77</td>
<td>0.424</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Sales</td>
<td>0.038406</td>
<td>0.143</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Purchase</td>
<td>0.033042</td>
<td>0.1338</td>
<td>-3</td>
<td>1</td>
</tr>
<tr>
<td>Expenses</td>
<td>0.072480</td>
<td>0.124</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Capital Allowance</td>
<td>0.005727</td>
<td>0.049</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Other items</td>
<td>0.011486</td>
<td>0.063</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

4.2 Univariate analysis

Tax Gap Evidence

Wilcoxon signed rank test provided a conclusive result on the significant difference between the mean of the reported tax and after audit tax. In this analysis, a non-parametric was performed because the data was skewed for both of the variables (reported tax and audited tax). The result in Table 2 indicated that audited tax scores (median=RM113,171.92) were statistically significantly higher than reported tax (median=RM96,356.42), Z=-43.054, p<0.001. The result of this analysis provides evidence that companies in Malaysia were involved in tax underreporting that contributed to the tax gap.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Median</th>
<th>Z-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reported tax</td>
<td>96,346.42</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Audited tax</td>
<td>113,171.92</td>
<td>-43.054</td>
<td>0.000**</td>
</tr>
</tbody>
</table>

**significant at 0.01

Impact of Prior Audit Experience towards the Tax Gap

Further analysis was conducted to investigate the influence of prior audit experiences towards the tax gap. For this purpose, independent t-test was employed to determine the difference in mean score of tax gap ratio between companies which were being audited for the first time and those who had prior audit experience.

Results in Table 3 showed that the difference in the mean for tax gap ratio is significant at 0.01 (p<0.001). Therefore, it is concluded that the tax gap ratio differs between frequencies of audit. It can be seen that companies that were audited only for 1 time (mean=0.136) had higher tax gap ratio compared to the companies which were audited for more than 1 time (mean=0.076). In other meaning, this result indicated that the tax defaulters had improved their compliance level as a consequence of the previous audit experiences.
TABLE 3: INDEPENDENT SAMPLES TEST

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency Audited</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 time</td>
<td>&gt;1 times</td>
<td></td>
</tr>
<tr>
<td>Tax Gap Ratio</td>
<td>0.136</td>
<td>0.076</td>
<td>6.331</td>
</tr>
</tbody>
</table>

**significant at 0.01

4.3 Multivariate analysis

Multivariate analysis was conducted to investigate the relationship between the independent variables with tax gap by considering the relationship of all independent variables. The multiple regression result is presented in Table 4. The results indicate that the model was statistically significant with F-value of 1900.48 (p < 0.001) and Adjusted R-square of 83.4 percent (R-square value = 83.5 percent). Therefore, this implies that the independent variables altogether explained 83.4 percent of the variation in tax gap among the corporate taxpayers.

Furthermore, the results also indicate that the coefficient of three variables [frequency of audit (−0.008), log of total asset (−0.011), Tax Agent (−0.008)] from the eight independent variables were negative in value. The negative coefficient implied that the tax gap will decrease as a consequence of any increase of audit frequency, and size of companies as well as the appointment of a tax agent.

Pertaining to the strategies to conceal income, the results was represented by Dsales (0.625), Dpurchase (0.649), Dexpenses (0.663), Dcapital (0.572), and Detc (0.676) which were all positive meaning that the increase in Tax Gap Ratio was significantly influenced by the increase of Dsales, Dpurchase, Dexpenses, Dcapital and Detc.

TABLE 4: MULTIPLE REGRESSION RESULTS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>β0</td>
<td>0.104</td>
<td>10.019</td>
<td>0.000**</td>
</tr>
<tr>
<td>β1Daudit</td>
<td>−0.008</td>
<td>−2.123</td>
<td>0.034*</td>
</tr>
<tr>
<td>β2Dsize</td>
<td>−0.011</td>
<td>−7.182</td>
<td>0.000**</td>
</tr>
<tr>
<td>β3Dagent</td>
<td>−0.008</td>
<td>−3.031</td>
<td>0.002**</td>
</tr>
<tr>
<td>β4Dsales</td>
<td>0.625</td>
<td>76.079</td>
<td>0.000**</td>
</tr>
<tr>
<td>β5Dpurchase</td>
<td>0.649</td>
<td>73.219</td>
<td>0.000**</td>
</tr>
<tr>
<td>β6Dexpenses</td>
<td>0.663</td>
<td>74.124</td>
<td>0.000**</td>
</tr>
<tr>
<td>β7Dcapital</td>
<td>0.572</td>
<td>25.910</td>
<td>0.000**</td>
</tr>
<tr>
<td>β8Detc</td>
<td>0.676</td>
<td>38.871</td>
<td>0.000**</td>
</tr>
<tr>
<td>F</td>
<td>1900.48</td>
<td></td>
<td>0.000**</td>
</tr>
<tr>
<td>R²</td>
<td>0.835</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.834</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*significant at 0.05
**Significant at 0.01

5. CONCLUSION

During SAS, enforcement activity in particular tax audit is regarded as the primary strategy taken by the tax authorities in ensuring a high level of voluntary tax compliance which simultaneously reduced the tax underreporting and tax gap. However, the tax authorities records showed that the tax underreporting which yielded a tax gap were still in a significant amount despite intensive rate of tax audit activities. In fact, there are cases where the tax gap still existed even though the taxpayers had already been audited previously. In addition, it is not possible for them to conduct enforcement activities for the entire taxpayer base due to resources limitation held by the agency. Therefore, there is a critical need to investigate the root cause of the tax underreporting issue in order to execute an effective plan to address the problem. Hence, this study is to identify and examine the determinant factors which influence the tax gap or tax underreporting in Malaysia. For the examination purpose,
the sample is focused on corporate taxpayers whom are the largest group of taxpayers that contribute to the direct tax collections in Malaysia.

Based on the empirical results, it is confirmed that companies were involved in tax underreporting that contributed to the tax gap. This finding also further support that tax gap is occurred across the globe (Tedd, 2010).

Further examination also proved that tax defaulters had improved their compliance level as a consequence of the previous audit experiences. The result was further supported by the findings of past studies which provided evidences on the effectiveness of prior audit experiences towards deterring tax non-compliances (Spicer & Hero, 1985; and Long, Susan & Richard, 1987). Thus, this finding also support the economic deterrence theory that deterrence towards tax non-compliance can be enhanced since people fear of being caught as it will lead to prosecution and unnecessary outflow of money (Devos, 2013).

This study also found that larger companies are more compliant with tax regulations as compared to smaller companies. Thus, the results further supported the findings of past study in Malaysia’s context (Mohd Nor, Ahmad & Mohd Salleh, 2010). The reason was believed due to a factor that larger firms have proper internal control, better corporate governance, and a good accounting system which promote better tax compliant decisions in the larger firms (Azrina Mohd Yusof, Ming Ling & Bee Wah, 2014).

In addition, the result of this study showed that taxpayers who had appointed tax agents were less likely to commit tax fraud that will contribute to a tax gap. Thus, it further strengthens the positive finding of a prior study (Nienaber, 2010). It is believed due to a perception that tax agents possessed better technical knowledge and experience in handling the administration of the tax regulations in relative to ordinary taxpayers (Erard, 1993).

Finally, the findings also confirmed that all five strategies namely underreporting of sales, overclaim of purchases, overclaim of expenses, ineligible capital allowances, and other strategies were significantly influential and contribute to the tax gap. Thus, this analysis further supports the prior findings in Malaysian’s case (MohdNor, Ahmad & MohdSalleh, 2010). The findings also support the gist of tax compliance theory that taxpayers will purposely find a way to underreport income in order to maximize their utility (Allingham&Sandmo, 1972).

It is believed that the findings on the determinant factors that affect the tax gap will ensure better profiling of possible tax defaulters especially for the corporate taxpayers. Thus, it will assist the tax authorities in selecting the group of taxpayers which are deemed to be at high risk of committing tax underreporting. In other words, results of this study will assist the tax authorities to formulate a strategic plan to encounter the tax non-compliance issues as well as to promote a more efficient tax system for the country. Finally, future research should focus on the tax non-compliance behaviour among the self-employed or individual taxpayers as there was evidence that these businesses may have a potential to evade taxes if the managers also evade their personal income taxes (Joulfaian, 2000).

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