The moderating effect of probability of detection on the determinants influencing excise duty non-compliance in Malaysia

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ABSTRACT

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Tax non-compliance in indirect taxes involving importers as taxpayers in smuggling and illegal trade activities for cigarettes, liquor and imported vehicles exists as a complex phenomenon in Malaysia. The purpose of this study is to examine the direct relationship and probability of detection as moderator with tax audit, tax knowledge and peer influence as independent variables to determine excise duty non-compliance issue. The questionnaires were distributed using disproportionate stratified simple random sampling technique. A total of 500 usable questionnaires collected for analysis. The partial least square analysis applied to analyze the data. Analysis of data involved throughout Malaysia indicates the tax audit, peer influence and tax knowledge have a significant positive relationship. In addition, tax audit have significant negative relationship and tax knowledge have significant positive relationship with moderating effect. The findings from this study provided an indication for the tax administration in maximizing tax collections and encourage taxpayer’s compliance.

Keywords:
Tax non-compliance, Excise duty, Illegal trade, Smuggling

1. Introduction

Tax non-compliance has been the main phenomenon faced by tax authorities around the world and Malaysia is not exceptional. As everyone aware, Royal Malaysian Customs Department (RMCD) is responsible for collecting and administering the indirect taxes such as import duty, export duty, excise duty, goods and services tax and vehicles levy. This study focuses on excise duty (import), one of the component in indirect tax which comprises of three main commodities such as cigarettes, vehicles, and liquor. These commodities are being focused because the amount of tax lost are quite rampant compared to other commodities such as textiles, tiles, and communication equipment [1-
5]. RMCD’s statistics indicate that the additional excise duty detected from the illegal trade and smuggling offences totalled almost more than RM1,800 million from the year 2010 to 2014 from the breakdown of 14,661 cases for cigarettes, 2,592 for imported vehicles and 4,662 for liquor [1-5].

Among the developing countries, Malaysia has been listed as a top five of the highest amount of illicit financial flow for the year 2012-2014 [6-9]. The total amount of illicit trade flows escalates from USD 370.38 billion for the period of 2002-2011 to USD 394.87 billion for the period of 2003-2012 and USD 418.54 billion for the year 2004-2013. This illicit trade flows caused by; 1) money flows through an illicit network and 2) trade mispricing. Further, the Global Financial Integrity estimated that there were up to 60 to 65 percent of fund flows illegally especially from developing countries’ economies like Malaysia might be caused by the trade non-compliance [10]. While, tax non-compliance is the fundamental cause for illegal capital flows as confessed by the Malaysian Government [11]. Moreover, for the past few years, RMCD’s collections are stagnant and hovering around RM 30 billion (USD 10 million) caused by non-compliance behaviour by some taxpayers [12]. The additional revenue collected from the illegal trade and smuggling offences is an indication of tax non-compliance existence. Furthermore, the potential excise duty detected mainly from excise duty (import) consist of cigarettes, imported vehicles, and liquor. These three main commodities are bound under the excise duty (imported goods) [13]. The tax losses for these commodities are from illegal trade activities and smuggling offences [5]. Tax non-compliance in indirect tax investigated in Malaysian context as a developing country. Hence, this study has several merits. Firstly, the data collected from actual illegal trade and smuggling offenders (importers). Most of the studies on tax compliance and non-compliance used annual reports which do not reflect the actual behaviour of tax evaders. Secondly, this study examined excise duty as indirect tax in Malaysian settings. Finally, these research incorporates economic and socio-psychology aspects in examining indirect taxpayers behaviour. Further, this study aims to examine the direct effect and moderating effect of probability of detection on the relationship between tax audit, peer influence, and tax knowledge in excise duty non-compliance among importers. This study is organized as follows. The next section reviews the literature and hypotheses developed. The third section presents the method used. The fourth section highlighted the analyses and the overall results. The final section presents discussions, limitations, future research, and conclusions.

1.1. Literature review and hypotheses development

1.1.1. Tax non-compliance

Tax non-compliance had been highlighted as a major phenomenon which caused the damages to the revenue collections needed to improve public amenities. This issue affected most of the developing countries compared to developed countries [14]. However, the research on indirect tax non-compliance still minimal. In Customs context, illegal trade activities and smuggling offences are the main factor for non-compliance. The smuggling offences carried out to evade tariff and non-tariff barriers which include monetary and non-monetary benefits of smugglers [15]. Tax non-compliance in goods importation is defined as mis-reporting (lower tariff declarations), under-invoicing (lower unit price declarations) or under declarations of quantities of goods [16].

1.1.2. Tax audit

Tax audit in Customs perspective defined as a systematic inspection of business books, records, systems and commercial data stored by importers directly or indirectly involved in the payment of Customs taxes. Audit taking place after the Customs declaration. For example, Kogler, Mittone and
Kirchler [17] identified the significant impact of compliance established for delayed feedback from audit compared to immediate feedback. Further, Mohdali, Isa and Yusoff [18] validated that taxpayers non-compliance behaviour will be deterred through the threat of punishment by the audit. However, Muhammad [19] shows audit caused negative perceptions on auditor as finding fault rather than educate the taxpayers to do the right things. The audit caused taxpayers undergone worries. Therefore, the respectful treatment during the audit will induce to voluntary compliance [20]. Feld and Frey [21] stated enforcement actions such as audit could lead to lesser tax compliance. In view of this, the first hypothesis is:

H1: There is a positive relationship between tax audit with excise duty non-compliance.

1.1.3. Tax knowledge

Tax knowledge involves rules and regulations pertaining Excise Act [22]. Further, the tax knowledge is one of the important factors in determining voluntary compliance. However, certain taxpayers and tax agents manipulate tax knowledge for monetary gain by practicing non-compliance. Similarly, Harris [23] indicates there is no direct significant influence between tax knowledge and tax compliance behaviour. Further, Mei Tan and Chin-Fatt [24] study’s shows tax knowledge did not have a significant effect on tax compliance. However, most of the prior literature found that possessing higher tax knowledge would lead to higher tax compliance [25-27]. Therefore, mix findings were found in tax compliance studies in explaining tax knowledge and taxpayers compliance behaviour. The proposed hypothesis is:

H2: There is a positive relationship between tax knowledge with excise duty non-compliance.

1.1.4. Peer influence

Ajzen and Fishbein [28] defined peer influence as social approval by close family and friends drove to taxpayers’ reporting behaviour whether to comply or not to comply with tax law. Parallel to this, Kirchler, Hoelzl and Wahl [29] stated the group of people related to taxpayers’ will influence their compliance behaviour. Conformity of taxpayers’ behaviour and value occurs due to the changes of other people [30]. However, Hite [31] highlighted peer is not a significant impact of taxpayers tax non-compliance. Similarly, Torgler [32] found a negative relationship and indicates dissatisfied individuals are more prone to discuss political issues with peers. Mix results were found from other peers influence in determining tax compliance. From the above elaboration, the related hypothesis to be tested in this study is stated as below.

H3: There is a positive relationship between peer influence with excise duty non-compliance.

1.1.5. Moderator: Probability of detection

The probability of detection playing an important role in determining tax compliance. The compliance in terms of probability of detection is a likelihood of the tax authority in discovering taxpayers’ non-compliance and find rectification [33]. The inconsistent findings indicate some fundamental variables such as the probability of detection have not given attention from many researchers. Therefore, it is necessary to study a role played by the probability of detection as moderator to influence the relationship between economy and non-economy factors of tax non-compliance in indirect tax perspective.

The probability of detection has significant positive effect on tax compliance. Taxpayers will declare their tax returns according to the tax law if they have knowledge will be audited in that
particular year [34]. The tax non-compliance decision is to consider as a gamble. If taxpayers under declared their tax returns, there is a chance to be escaped without detection. This will lead benefits through non-compliance. However, there also a tendency that they will be caught and penalized by fines and imprisonment. The decision to oblige to the tax law relied on by weighing the gain and losses of being caught and the level of punishment imposed. Allingham and Sandmo [35] revealed taxpayers are induced to practice non-compliance if the expected costs of non-compliance exceed the expected benefits of non-compliance. From the elaboration, the related hypotheses to be tested in this study are as stated below:

H4: The positive relationship between tax audit with excise duty non-compliance will be stronger when the probability of detection is high.

H5: The positive relationship between peer influence with excise duty non-compliance will be stronger when the probability of detection is high.

H6: The positive relationship between tax knowledge with excise duty non-compliance will be stronger when the probability of detection is high.

2. Conceptual framework

Based on the above discussion as illustrated in prior literatures, the conceptual framework of present study constructed as in Fig. 1.

![Fig. 1. Research Proposed Model](image)

3. Methodology

3.1. Data collection

The unit of analysis of this study is at the company level. Data were collected from 600 excise duty offenders obtained from RMCD’s data base for the year 2014. The questionnaires distributed based on disproportionate stratified random sampling. Targeted respondents are managers of this companies directly involves in Customs declarations processes. After four months 500 useable data obtained after data screening for analysis purposes which represents 83% of response rate. The participating companies comprising the breakdown of cigarettes (223), liquor (166) and imported vehicles (111).
3.2. Measurement

All the constructs and item in this quantitative research design employed adapted from previous studies. All the items measured based on seven-point Likert-scale ranging from strongly disagree (1) to strongly agree (7) constructs. The five items for tax audit adapted from Isa and Pope [36]. Further, peer influence with five items adapted from Bobek, Roberts and Sweeney [37] and tax knowledge (7 items) adapted the instruments applied by Eriksen and Fallan [38]. The excise duty non-compliance consist of 9 items adapted from Kirchler and Wahl [39]. Finally, probability of detection measured with 6 items adapted from Wenzel [40].

4. PLS data analysis and results

Partial Least Squares (PLS) analysis technique using SmartPLS 3.2.4 software employed to analyze research model. Two stages analytical model recommended by Anderson and Gerbing [41] applied to test measurement model (the relationship between construct and indicators) as well as the structural model (relationships between the constructs) [42].

4.1. Assessment of measurement model

<table>
<thead>
<tr>
<th>Construct</th>
<th>Items</th>
<th>Loadings</th>
<th>AVE</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excise Duty Non-compliance</td>
<td>EDN</td>
<td>0.826</td>
<td>0.626</td>
<td>0.893</td>
</tr>
<tr>
<td>(EDN)</td>
<td>EDN5</td>
<td>0.739</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EDN7</td>
<td>0.856</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EDN8</td>
<td>0.793</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EDN9</td>
<td>0.737</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax Audit</td>
<td>TAU</td>
<td>0.793</td>
<td>0.589</td>
<td>0.851</td>
</tr>
<tr>
<td>(TAU)</td>
<td>TAU1</td>
<td>0.725</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TAU2</td>
<td>0.812</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TAU3</td>
<td>0.735</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TAU4</td>
<td>0.893</td>
<td>0.716</td>
<td>0.883</td>
</tr>
<tr>
<td>Peer Influence</td>
<td>PI</td>
<td>0.893</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(PI)</td>
<td>PI1</td>
<td>0.881</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PI2</td>
<td>0.758</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax Knowledge</td>
<td>TK</td>
<td>0.875</td>
<td>0.694</td>
<td>0.940</td>
</tr>
<tr>
<td>(TK)</td>
<td>TK1</td>
<td>0.893</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TK2</td>
<td>0.828</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TK3</td>
<td>0.820</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TK4</td>
<td>0.660</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TK5</td>
<td>0.897</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TK6</td>
<td>0.886</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TK7</td>
<td>0.842</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Probability of Detection</td>
<td>POD</td>
<td>0.917</td>
<td>0.839</td>
<td>0.912</td>
</tr>
<tr>
<td>(POD)</td>
<td>POD4</td>
<td>0.915</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The measurement model assessed by 2 types of validity namely convergent validity and discriminant validity. The convergent validity evaluated by assessing the indicators loadings, average variance extracted (AVE) and composite reliability. As reported in Table 1, the indicator loadings for
all the items exceeded 0.50, the AVE values were in the range of 0.59 to 0.84 exceeded the suggested value of 0.50 and composite reliability values were all ranged from 0.85 to 0.94 where all above the recommended value of 0.70 [43]. However, excise duty non-compliance item number 2, 3, 4 and 6, peer influence item number 3 and 5 tax audit item number 5 deleted followed by probability of detection item number 1,2,3 and 6 due to low indicator loadings. Therefore, on the basis of overall findings, it is concluded this study have acceptable convergent validity. 

After the convergent validity established, next is testing the discriminant validity following Fornell and Larcker [44] criterion. The comparison was made with AVE’s square root values with the correlations of the latent variable. As shown in Table 2, the square root of AVE’s is greater than all cases and the diagonal values in the respective rows and columns. Hence, this indicates the adequate discriminant validity achieved. Overall, the measurement model demonstrated the satisfactory convergent validity and discriminant validity.

Table 2

<table>
<thead>
<tr>
<th>Discriminant validity</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDN</td>
</tr>
<tr>
<td>EDN</td>
</tr>
<tr>
<td>PI</td>
</tr>
<tr>
<td>POD</td>
</tr>
<tr>
<td>TAU</td>
</tr>
<tr>
<td>TK</td>
</tr>
</tbody>
</table>

4.2. Assessment of structural model

The predictive power of research model evaluated by R² (coefficient of determination) shows the combined effect of exogenous and endogenous constructs [45]. The SmartPLS algorithm function applied to obtain the R² value to assess the amount of variance explained by exogeneous constructs [42]. All these three variables showed R² value of .481 indicating 48.1% of the variance in the excise duty non-compliance explained by tax audit, peer influence and tax knowledge. Further, the R² value increased to .491 with the probability of detection as a moderating effect. This shows 49.1% of the variance in excise duty non-compliance explained by tax audit, peer influence and tax knowledge with the indirect effect of probability of detection.

The bootstrapping function with 1000 re-sampling from 500 cases performed. Further, the path estimates and t-values calculated for the hypothesized relationship. Table 3, shows the structural model’s analysis results. The results revealed that tax audit (β=0.298, p<0.01), peer influence (β=0.218, p<0.01) and tax knowledge (β=0.230, p<0.01) positively related to excise duty non-compliance which supported H1, H2 and H3 hypotheses.

Table 3

Path Coefficient for Direct Effect

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Path Coefficient (β value)</th>
<th>t- value</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tax Audit -&gt; Excise Duty Non-compliance</td>
<td>0.298</td>
<td>5.658</td>
<td>Supported</td>
</tr>
<tr>
<td>Peer Influence -&gt; Excise Duty Non-compliance</td>
<td>0.218</td>
<td>3.615</td>
<td>Supported</td>
</tr>
<tr>
<td>Tax Knowledge -&gt; Excise Duty Non-compliance</td>
<td>0.230</td>
<td>4.943</td>
<td>Supported</td>
</tr>
</tbody>
</table>

p<0.01
4.3. Probability of detection as moderating effect

The bootstrapping analysis showed the hypothesized level of probability of detection as a moderating effect on the relationship between excise duty non-compliance and its determinants. The results in Table 4 indicates that tax audit (β=−0.099, p<0.01) is supported H4 and negative relationship present with moderating effect of probability of detection. Thereafter, hypothesis H6 (β=0.043, p<0.05) exhibiting a positive moderating effect of tax knowledge between the probability of detection and excise duty non-compliance. However, the result of peer influence revealed an insignificant relationship not supported H5 (β=0.010, p<0.1) as having moderating effect between the probability of detection and excise duty non-compliance.

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Path Coefficient (β value)</th>
<th>t- statistics value</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tax Audit 1 -&gt; Excise Duty Non-compliance</td>
<td>-0.099</td>
<td>3.280*</td>
<td>Supported</td>
</tr>
<tr>
<td>Peer Influence 1 -&gt; Excise Duty Non-compliance</td>
<td>0.010</td>
<td>0.307</td>
<td>Not Supported</td>
</tr>
<tr>
<td>Tax Knowledge 1 -&gt; Excise Duty Non-compliance</td>
<td>0.043</td>
<td>2.081**</td>
<td>Supported</td>
</tr>
</tbody>
</table>

4.4. Predictive Relevance Q^2

Predictive relevance is a resampling technique also known as Stone-Geisser’s Q^2 besides looking at R^2 values (Henseler, Ringle, & Sinkovics, 2009). The blindfolding technique was applied to test the predictive relevance for endogenous construct with the multiple or single item in reflective measurement model [42]. Predictive relevance scores considered as 0.02 (small), 0.15 (medium) and 0.35 (large) [42]. The result obtained for the direct and indirect effect of probability of detection as shown in Table 5. This results indicates that this study’s model has large predictive relevance for endogenous construct.

<table>
<thead>
<tr>
<th>Construct</th>
<th>SSO</th>
<th>SSE</th>
<th>Q^2 (=1-SSE/SSO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excise Duty Non-compliance</td>
<td>2,500.00</td>
<td>1,552.91</td>
<td>0.379</td>
</tr>
<tr>
<td>Probability of Detection</td>
<td>2,500.00</td>
<td>1,528.45</td>
<td>0.389</td>
</tr>
</tbody>
</table>

5. Discussion

The objective of this study is to examine the relationship between tax audit, peer influence and tax knowledge with excise duty non-compliance by importers. At the same time, this study aims to examine the moderating effect of probability of detection on the relationship between tax audit, peer influence, and tax knowledge. Taxpayers always confronted with dilemma with the audit and fines imposed to them [46]. This study showed tax audit significantly and positively related to excise duty non-compliance. This empirical result corroborates with findings from other previous literature who validated the significant positive relationship between tax audit and tax non-compliance [18,47]. A reasonable explanation could be that taxpayers compare the burden of paying taxes against the cost involved of being audited and penalized. Further, taxpayers’ experience being audited determined their decision to cooperate or evade taxes.
As posited, peer influence is found to have a positive significant effect on excise duty non-compliance. Hence, it is suggested the greater the peer influence such as other importers and tax agent. Taxpayers are more likely to violate tax laws if they perceive or hear other do so because they endorsed tax non-compliance is acceptable and they themselves may be non-compliant [37,40]. This study revealed that tax agents influencing importers decision in tax declarations. Tax agent as a representative between importers and RMCD shape up the way importers behave in tax compliance.

Tax knowledge is identified as an important element in determining tax compliance [26,27]. However, this study’s result showed higher tax knowledge will induce to tax non-compliance. As taxpayers used the tax knowledge particularly on tax laws to find loopholes in tax system to conduct tax non-compliance [23,24]. The importer’s adequate knowledge of importation caused they produced double invoices. The double invoices arise due to the agreement between local importers and foreign exporters to save the per-unit cost of two invoices. Moreover, the various complex and technical procedures for declarations such as tariff classification, valuation, origin rules and facilitation procedures will be an avenue to importers to practice tax non-compliance conduct.

The moderating effect of probability detection is revealed to have a negative and significant relationship with the tax audit and excise duty non-compliance. Moderating effect alter the association from positive to negative which is consistent with Shao, Zhao and Chang [48] finding. Tax audit applied as a tool to detect non-compliance in China. While, for tax knowledge moderating effect, strengthen the positive relationship. Taxpayers emphasized on incentives and profit maximization after adjusting the risk of detection consistent with Deterrence Theory [49]. However, the probability of detection insignificantly moderating peer influence and excise duty non-compliance. This indicates moderator not affected the direction or strength between independent and dependent variables.

6. Implications

The current study suggests that RMCD should focus on tax audit, peer influence, and tax knowledge as well as probability of detection as they have strong predictive measures in excise duty non-compliance. Importers will be prone to comply if the cost of successful evading taxes lesser than paying taxes lawfully. Therefore, tax audit should be performed by educating importers not merely finding faults and penalized them. This will enable to save the cost of conducting an audit to both parties. Relevant assistance should be revised to include more effective training and education to importers pertaining the Customs declarations. RMCD also can keep importers aware and closer via web-based technologies such as the usage of smartphones by introducing facebook account with importers. This method will enable importers to clear their doubt of importation matters especially on tariff classifications, current tax rate and also rules of origin. Further, RMCD needs to understand economic factor (cost of doing business) and socio-psychological factors (behaviour and attitude) when enforcing the law will be successful all the time to continue their compliance. There is also a need to RMCD to increase awareness as a service provider for importation and exportation businesses. Advertisements or programs are some of the examples which can help to achieve this objective. The current indirect tax research model can be applied as guidelines for future tax studies, especially in Malaysian or other Asian settings. Researchers could replicate this study from the context of any country worldwide and compare the findings and verify the culture context influence.
7. Limitations and future research

Although this study contributes to identifying some major predictors for excise duty non-compliance, there are some limitations. The main limitation is structured questionnaires does not reflect the truthful answers of importers actual behaviour. Therefore, mix method approach needs to be exercised in generalizing the findings of this study. Hence, future research can build on the significant determinants in this research by introducing new determinants and measures for excise duty non-compliance intention. Future research should look into extending the model to include other untested factors from economic, socio-psychological factors such as tax complexity, the financial condition of taxpayers, tax morale and tax fairness. A test on potential moderator such as tax agent should be carried out for further excise duty non-compliance determinants study.

8. Conclusion

Overall, the research findings revealed tax audit, peer influence, and tax knowledge are positively related to excise duty non-compliance intention for the direct relationship. Further, the interaction with moderating effect alter the tax audit relationship from positive to negative and strengthen the positive relationship of tax knowledge. Therefore, it is concluded RMCD should conduct audit effectively based on the influence of probability of detection. The probability of detection playing a significant role in taxpayers reporting behaviour as taxpayers declare accurately if they perceived they will be audited in particular year. However, with the adequate tax knowledge, importers might use this advantage to conduct tax non-compliance if the cost for evasion is lesser than paying taxes. Hence, RMCD should impose stringent penalties as an effective policy to protect the behaviour of tax evasion. The findings of this could help to provide better insight for excise duty non-compliance especially in strategic planning related to tax system to face intense globalization competition and new challenges.

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