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Factors Affecting the Productivity of IRBM Field Tax Auditor: A Case Study in Malaysia

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Abstract: The purpose of this conceptual paper is to explore the idea of factors affecting the productivity of field tax auditors in the Inland Revenue Board of Malaysia (IRBM). This study is significant because IRBM has not yet implemented a systematic method of deploying officers to the field tax audit unit throughout Malaysia. The factors identified could be used as a reference in designing future human development programme in IRBM with emphasis on field tax auditors. Several variables have been identified, which are broadly classified into individual characteristics and external factors. Data for the analysis are to be sourced from IRBM's internal database, unpublished records as well as through direct questionnaire of all respondents engaged in the field audit in Klang Valley. The proposed idea would analyse the relationship between auditors' productivity and various variables based on the initial assumption that all variables are influencing the productivity directly. This is, however, merely an initial expectation and subject to further data analysis once the data collection is implemented and completed.

Keywords: Productivity, Field Tax Auditor, Inland Revenue Board of Malaysia (IRBM), Malaysia

JEL Classification: M40, M49
Paper Type: Research Paper

1. INTRODUCTION

Tax non-compliance problems particularly under-reporting of income have been investigated extensively since the emergence of the theoretical study on tax evasion by Allingham and Sandmo (1972). The similar theoretical study was conducted by Srinivasan (1973), marking the beginning of more studies in the field of tax evasion, expanding

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beyond theoretical studies. The necessary proposition of the two earliest studies stemmed from the contention that tax enforcement (audit) and punishment (penalty for evasion) have a positive impact on taxpayers' compliance behaviour. Further studies on the same subject (some through different methods and perspectives) are carried out by various scholars such as Kahneman and Tversky (1979); Spicer and Thomas (1982); Clotfelter (1983); Witte and Woodbury (1985); Spicer (1986); Crane and Nourzad (1986); Feinstein (1991); Engel and Hines (1999); and Dhami and al-Nowaihi (2004) among others. The issues debated or discussed rest on: (i) Why people evade tax or under-report their income to the tax authority?, and (ii) The effectiveness of some measures to improve tax compliance, such as tax enforcement measures, the imposition of penalty and punishment for tax evasion, and the selection of appropriate tax rate schedule.

In fact, studies on tax non-compliance and tax evasion have led to a conclusion that strengthening tax audit policy and practice are among the most important measures to deter tax evasion and under-reporting of income tax. Three elements of tax audit are identified under the literature, namely: the tax audit selection (Cowell, 1985; Reinganum & Wilde, 1985), the tax audit coverage (Allingham & Sandmo, 1972), and the audit efficiency (Feinstein, 1991). The tax audit coverage is the broad main subjects related to this paper. The focus would be on the productivity of auditors working in the field audit unit of company taxpayers.

According to the Inland Revenue Board of Malaysia's (IRBM) practice, the audit coverage refers to the number of field audit carried out on taxpayers in a particular year as compared to the total number of registered taxpayers in that year. It is expected that when tax audit coverage increases, the tax underreporting behaviour decreases (Allingham & Sandmo, 1972). One of the most direct ways to increase audit coverage is to increase the number of auditors. Similarly, another way is to increase the productivity of each tax auditor. In the latter case, every tax officer has to audit and conclude more cases. The first method is not always possible due to financial and human resource constraints faced by the IRBM. The second method is possible through the deployment of productive tax auditors to do tax field audit. Thus, the researcher perceives that it is essential to identify the factors that influence the tax auditor's productivity.

Based on studies at firm and industry level, individual productivity is influenced by both the individual's characteristics as well as external factors. Individual characteristics such as age and gender have been identified as factors influential to productivity, see for example Roger and Wasmer (2009) and Holzer (1988) Holzer (1988). The effect of works related training was studied by Pells, Steel, and Cox (2004), and Dearden, Reed, and Reenen (2006). Job satisfaction and productivity, on the other hand, were studied by Bockerman and Ilmakunnas (2010). The previous experience and tenure in the current job are also identified as some of the determinants of individual productivity (Holzer, 1988). Other factors include employee happiness (Oswald et al., 2014). This research attempts to study the influence of these factors on the productivity of tax auditor in the IRBM.

2. LITERATURE REVIEW

Conceptually, productivity is often misunderstood due to some reasons. One of the reasons is due to the existence of other closely related terms and concepts such as profitability, performance, efficiency, and effectiveness (Tangen, 2002). However, it is generally accepted that the term "productivity" refers to an input-output relationship in production, that is, how much output is obtained from a given set of inputs (Syverson, 2011). Tangen (2002) added that productivity is firmly connected to the creation of value. According to OECD (2001), productivity can be measured in many ways. The most basic

and practical productivity measure is the simple relationship between input and output, that is, output divided by input.

The suggested formula for measuring productivity is not always straightforward. It is a need to relate the measurements to a different aspect of performance and specific activities in an organisation. In the case of a tax audit, OECD (2006) has outlined several measurements of tax audit performance. Broadly, the measurement can be either outcome based or output based. Outcome-based measurement emphasises the impact of tax audit rather than the audit activity itself, for example, the impact of a tax audit on tax compliance. The impact is not always clear and immediate. The output-based measurement looks into the tax audit itself. The measurement could be yield and productivity measures; time measures; volume and coverage measure; and quality measurement.

2.1 Theoretical Assumption

The review of the relevant literature indicates that the concentration of theory is more on the importance of audit coverage (the probability of audit) rather than answering another important issue that is "what makes tax auditor more productive?". A highly productive tax auditor enables the tax authority to enhance the audit coverage with the minimum possible deployment of human resources. The emergence of studies focusing on audit coverage started with the pioneering theoretical work of Allingham and Sandmo (1972) and progressed with various approaches in empirical studies. One of the recent studies conducted by Alm and McKee (2006) reinforced the significance of audit coverage and audit efficiency in deterring tax non-compliance. The study shows that compliance increases when taxpayers had some information of most potentially been audited. As to the best of researcher knowledge, there is no specific study on the determinants of tax auditor's productivity. Thus, this research relies on literature about workers' productivity in general as the foundation of the research.

The basic theory of the determinants on individual productive capacity and productivity has been explained by Becker (1962). The argument is that investments in human capital affect a wide range of economic variables that include earnings and employment. Becker (1962) did not list the factors that constitute what is called human capital. However, investment is defined in human capital as "activities that influence future real income through the embedding of resources in people" and any activities that "improve the physical and mental abilities of people and thereby raise real income prospects" (Becker, 1962). Nonetheless, activities in the above category affect earnings differently. In an ideal competitive labour and product markets, a profit-maximising firm is in the equilibrium when the marginal revenue of products (MRP) equal wages (W) as specified in the Neo-Classical Marginal Productivity Theory. Given that investment in human capital positively correlates with wages, it can be said that human investment capital is also positively correlated with marginal products.

This study tries to explore the productivity of tax auditor at an individual level. However, most of the empirical studies on productivity are at the macro (firm and industrial) perspective. Therefore, this research relies on the assumption that the macro productivity is the sum of individual productivity which indirectly would also provide insights on the factors that influence individual's productivity. The almost similar study on the determinants that influence the tax auditor's productivity is the study by Greenfield (1982). Greenfield analysed the productivity of sales tax auditors from various states in the United States of America (USA) in the year 1969, and 1976 explained into three main determinants, that is, the number of tax auditors, the level of salary, and sales tax rates. The study is related to the dollar amount of audit recovery as a result of the audit programs

in the respective states. The findings revealed that higher salary level could attract more skilful auditors and this factor has the significant influence on the level of sales tax auditors' competency in the respective states. The results also indicate that audit recovery efficiency of auditors is positively correlated with the number of auditors, that is, increasing the number of auditors lead to an increase in audit recovery efficiency. A similar effect was also observed by increasing the salary of auditors. Indeed, the results suggested that audit productivity is higher in the states where the salary is higher. However, the works have provided a limited knowledge of the true determinant of auditors' productivity which is necessary to review the general study of productivity to get further insight into the productivity literature.

2.2 Demographic Characteristic (Age) and Productivity

The impact of age on individual productivity has been investigated by Vandenberghe and Waltenberg (2010), Dostie (2006), Roger and Wasmer (2009), Dearden et al. (2006), and Turner and Mairesse (2003). According to Vandenberghe and Waltenberg (2010), the average age of Belgian workers rose by almost three years between 1998 and 2006. It was expected that productivity decreases as worker age increases due to specific reasons such as deterioration in health. Vandenberghe and Waltenberg (2010) found that the overall productivity of a firm in Belgium decreased as the percentage of older workers increased in the firm. Statistically, it shows that an increase of 10% in the age of workers of 50 to 60 had depressed the added value of a firm by 2% to 4%.

The above finding is consistent with Dostie (2006)'s finding in the case of Canada. The most productive age group according to Dostie (2006) in the case of Canada is between 35-55 years old. The concave relation between productivity and age is a matter of concern because wages tend to increase over the period of employment term of a person (Skirbekk, 2003). Based on Skirbekk's survey of the literature, individual cognitive ability varies as age increases. According to Skirbekk, older workforce generally produces lower productivity in a job requiring problem-solving skill, learning and speed. However, they are relatively more productive where experience and verbal abilities are required in the performance of a task.

The general conclusion with regards to an individual employee's productivity and age seemed to favour those employees fall between the age of 30 to 50 as the most productive employees. It is, however, unclear whether this general conclusion can be used to generalise the situation in the case of the IRBM's field tax auditors. The nature and complexity of audit works evolve over the years due to changing tax laws and regulations. Since the introduction of the Income Tax Act, 1967 there has been no single year passed without changes in it. Also, audit works become more complicated as a result of enforced or voluntary changes in business practices parallel with changes in government regulations, standard accounting practices, financial innovations, as well as technological innovations among others. As an auditor's age increases, his/her ability to cope with the changes in his/her work environment might vary and possibly deteriorate. This is supported by the argument of Skirbekk (2003) which mentioned that individual cognitive abilities vary as for age increases. It is important to know whether age can be an important factor in deciding whether an auditor is potentially productive or vice versa. Therefore, the following hypothesis is developed:

H_1 There is a significant difference in age on productivity among field tax auditors of IRBM in Klang Valley

2.3 Demographic Characteristic (Gender) and Productivity

The connection between productivity and gender is well documented in the productivity literature. The World Bank (2012) in its report acknowledged the existence of productivity differences between male and female across economic spectrum throughout the world. Several causes for the differences were cited such as the inherent differences in the characteristics of female and male workers, the types of activities and jobs that women and men do, and differences in the returns to both worker and job characteristics. Women spend more time on household and care works compared to men. Men, in contrast, spent more time on market works compared to women. Because of the unique characteristics of men and women, both genders would potentially involve in different economic activities (in term of types and scale) that eventually lead to differences in productivity and income.

The fact of different productivity level between genders doing the same work or economic activity was supported by several types of research. Turner and Mairesse (2003) in their study on French Physicists, found that women are less productive in the number of publications as well as the quality of research. The quality of research refers to the number of citation a physicist had from his/her publication. The findings indicate that men publish more paper than women at almost 0.9 papers on average per year. The reasons for the difference in research productivity could be many. One of the reasons was elaborated by Leahey (2006). Leahey (2006) found that the difference in the extent of specialisation depth in a particular field between men and women was one of the reasons leading to different research productivity. Men specialise more than women and therefore enable men to apply more specific knowledge in their research and increase productivity. Specializing enables one to master literature in a subfield, and it makes subsequent research and publication in the related field easier.

Although some studies do support the argument that women have lower productivity compared to men in similar and different economic activities, it is premature to assume that those findings are valid in the case of field tax auditors in the IRBM. In the IRBM all tax audit officers are given equal access to similar type, quality and amount of resources. For example, each officer (regardless of their gender) is provided with similar training. Because of this, the capability of men and women in conducting of field audit is expected to be the same. However, based on the finding of Petersen, Snartland, and Milgrom (2006), the number of family obligations at home for men and women might assert important influence on the productivity of the field tax audit officers of a different gender. It is also important to note that field tax audit involves outside-office works. Therefore, women and men could produce different level of productivity with this unique setting. It is important to know which gender is more productive in the field tax audit as this would help in the determination of the appropriate ratio of men and women in the field tax audit team. Thus, the following hypothesis is predicted:

H_2 There is a significant difference in gender on productivity among field tax auditors of IRBM in Klang Valley

2.4 Training and Productivity

This external factor is mentioned by Syverson (2011) as one of the important factors affecting individual's productivity. This factor has been investigated by several scholars like Holzer (1988), Pells et al. (2004), Dearden et al. (2006), and Aghazadeh (2007). Holzer (1988) investigated the effect of various elements including experience, training, individual-specific and firm characteristics on individual wages and productivity using individual workers from firm throughout the US in 1980 and 1982 as the sample of the

surveys. The length of training was measured in hours which include formal and informal training provided by the management, supervisors, trained personnel and co-workers. A larger fraction of the training was informal. In general, the result indicates that training positively affects the productivity and wage growth. However, the results show no significant impact of training on the level of both productivity and wages. The results also show that formal training has larger impact on productivity growth compared to informal training. It was further indicated that both formal and informal training provided by management have a more positive impact on productivity growth compared with the time spent with co-workers.

Pells et al. (2004) found three possible impacts of training on productivity, that is, the impact on the individual, on firm productivity, as well as the impact on society. According to Pells et al. (2004), the impact of training on individual productivity is observed through an increase in salary. It is expected that an increase in industrial training could boost individual productivity in the range of from 5% to 20%. On the firm level, an increase in productivity is reflected through an increase in the firm's profitability. However, the evidence from their analyses is less clear and less conclusive. Limited evidence indicates that the impact of training on productivity at the firm level is higher than the impact on the individual. It is also possible that a highly productive worker can influence co-worker positively. This is what Pells et al. (2004) called as externalities of productivity (i.e., the impact of productivity increase on society). They also mentioned one important point where individuals with lower educational achievement and economic status gained a higher increase in productivity as a result of proper training.

The literature on training and productivity so far have provided significant insight into the relationship between training and productivity of workers in industrial and service sector. The general conclusion from the studies suggests that all types of training such as informal and formal training have a positive influence on the productivity. The ability of an employee to undertake the training contents would also possibly influence the actual productivity of the employee. Usually, this ability can be measured using certain test after the completion of a course. However, this issue has not been addressed in the reviewed studies. It is also unknown whether certain types of training of both formal and informal affect productivity at a different rate. As an illustration, say employee A is trained formally with training type X, and employee B is trained with formal training of type Y. In such cases like the above, the literature is somewhat unclear.

In the IRBM, all field tax auditors are required to attend and pass the basic law and account training courses. Based on the general perceptions of the literature it is expected that all tax auditors who have attended and passed all the necessary basic law and account courses are expected to be more productive compared to tax auditors who have not. Thus, all officers are exposed to similar training and yet still producing different individual's result at work, it is best to look at other factors as well. For example, the score in the test at the end of the training could be tested as one of the determinants in individual auditor's productivity at audit work. Unclear in the literature whether the specific courses attended by auditors have any influence on the productivity among field tax auditors. Therefore, the following hypothesis is assumed in this paper:

H_3 There is a significant relationship between training and productivity among field tax auditors of IRBM in Klang Valley

2.5 Work Experience and Productivity

Another important external factor contributing to the higher productivity of workers as mentioned by Becker (1962) is experience or the length of one's service in a particular job.

The general expectation according to the human capital theory (Becker, 1962) is that a more experienced worker is paid higher because he/she is more productive. The experience impact on productivity has been studied by Medoff and Abraham (1980), Maranto and Rodgers (1984), Dunson (1985), Papay and Kraft (2013), and Holzer (1990) among others. Interestingly, Medoff and Abraham (1980) found a counter-intuitive association between experience and productivity. In their study, samples were taken from two major US corporations which consist of employees at managerial and professional level. Salary was traditionally used as a measure of productivity, but Medoff and Abraham (1980) did not use it because of the possible disturbance of the seniority system in pay determination in the two corporations. Instead, the employees' performance appraisal results were taken as a measure of productivity with the assumption that the higher the productivity, the better the employees standing in the performance appraisal by their supervisors. It was also mentioned that a sense of complacency among employees might set in after a specified period, and this would adversely affect their productivity. Also, more experienced workers are relatively older, and this group might have less motivation.

Maranto and Rodgers (1984) investigated the impact of experience on productivity using the data on wage claim investigation from the US's Midwestern State Department of Labor. In their study productivity is measured using a fraction of back wages recovered by an investigator. The primary task of the investigator is the recovery of unpaid wages that employers allegedly owe to employees. The investigator uses the pure skill of persuasion and negotiation to recover the back wages. Therefore, it is practical to assume that a more experienced investigator would be able to recover a higher amount of back wages. The main explanatory variable is the investigator's tenure on the job and has also included some control variables such as the number of years of schooling completed and the investigator's gender. However, a more rapid improvement in investigator's productivity only occurs during the first six years on the job. There are several elements that could have a significant impact in their analyses and results, such as non-availability of the official on the job training for the investigator, non-existent of promotion for the investigator, non-existence of supervisor's monitoring on the investigator, task difficulty, and the unknown scale of competency rate in the job. These factors, among others, lead them to conclude that the result of their study cannot generalise in other field of occupation.

Earlier in this review, the study of Holzer (1990) was mentioned which also includes previous experience and tenure as one of the determinants of individual productivity. A stronger positive impact of previous experience on current productivity was found particularly for an experience that has some use for the current job. The positive effect of job tenure is observed for both the current productivity level as well as productivity growth. In summary, the influence of experience on productivity is not as evident as contended by Becker (1962). The key findings indicate that tenure in the job or experience does contribute to an increase in employee's productivity. However, the increase varies throughout the service of the individual employee. It seemed that individual employee's productivity increases rapidly in the early part of his/her service and continue to increase in smaller rate after a certain period. In particular situation, Medoff and Abraham (1980) also suggested that work experience not necessarily contributes to higher productivity. The above finding supports that the relationship between work experience and productivity cannot be generalised. Every case needs to be investigated on its own, which suggests the same test for individual field tax auditors in the IRBM. Considering the fact, the following hypothesis is developed:

H_4 There is a significant relationship between work experience and productivity among field tax auditors of IRBM in Klang Valley

2.6 Religiosity and Productivity

It was acknowledged by researchers that study is lacking on the direct linking of religiosity, spirituality, commitment and personal values towards individual's performance at work (Osman-Gani, Hashim, & Ismail, 2010). In the work of Barro and McCeary (2003), Wiseman et al. (2014), and Osman-Gani, et al. (2010). Based on their reviews of the religiosity-productivity literature, Osman-Gani et al. (2010) concluded that religiosity influences individual performance in an organisation through its positive impacts on personal values. In the presence of work commitment, a positive personal value can indeed enhance individual employee performance in an organisation. Broadly Barro and McCeary (2003) found that an increase in religious activity in the form of church attendance contributes to the reduction in the economic growth. This is probably due to the diversion of resources in the sector's main output (the religious beliefs) that was held constant in the analysis. However, for given church attendance, an increase in religious beliefs has some positive influence on economic growth. According to Barro and McCeary (2003), religion is part of a culture which has a significant influence on various personality traits such as honesty, and willingness to work hard. It can be deduced that the quality of the religious beliefs has a more significant positive effect on productivity and economic growth, rather than the quantity of the religious activity.

Wiseman and Young (2014) used the US state-level data, in another attempt to correlate religiosity and productivity. More specifically two measures of religiosity have been analysed namely the belief (e.g., the frequency of prayer) and belonging, for example, protestant affiliation). The measure of productivity consists of the level of entrepreneurial activities (both productive and unproductive). The finding indicated that both measures of religiosity negatively correlate with state's productive entrepreneurship score. Wiseman and Young (2014) noted that the plausible explanation for this result is probably due to the usage diversion of resources. Religious obligations and activities require a certain amount of resources that could otherwise be used for productive entrepreneurial activities. Their findings and justification are somehow similar to particular part of Barro and McCeary (2003)'s work.

Based on the previous limited reviews, there are at least three factors that determine the direction of impact religion and religiosity on individual productivity. Firstly, religion and religiosity level could influence personal values (e.g., concern for the poor, honesty, and thriftiness) and work commitment. Secondly, allocation of resources into religious activities and meeting religious obligations lessen the resources for productive economic activities. Thirdly, the level of religiosity that could affect the incentive to be productive (Wiseman & Young, 2014). The preceding analyses shed some insights into the possible effects of religiosity on individual's productivity at works. In the case of the IRBM, one could identify (with high certainty) the religious belief of an individual tax auditor through self-declaration and observation of individual's religious practice. Although the literature has provided possible consequences of individual quality of religious belief, there was no insight into how this quality of belief can be measured and examined in various settings. Hence, the following hypothesis is assumed:

H_5 There is a significant relationship between religiosity and productivity among field tax auditors of IRBM in Klang Valley.

3. RESEARCH METHODOLOGY

This study is quantitative research which conducted via questionnaire survey personally sends to the respondents. The population for this research consists of all junior tax

auditors serving in the field of tax audit units of corporate taxpayers throughout Malaysia. The tax auditors are selected because they are the backbone of the field tax audit unit. There are small numbers of officers of higher ranks serving in these units but their scope of duties is slightly different, and most of the time also plays the role as a team leader or unit head. The sample of this study is confined to officers in Klang Valley only to mitigate the possible problem of comparability bias. On top of that, Klang Valley consists of three branches, that is,.CPCB, Shah Alam and Petaling Jaya which are more likely to handle complicated tax audit cases.

The measurement for productivity is based on the tax auditors' annual performance appraisal scores. The IRBM has implemented the annual performance appraisal for the last 15 years. It has gone through evolution and refinement process which increases its reliability as a productivity measurement tool. The performance appraisal of a field tax auditor is carried out by his/her immediate supervisor (first evaluator) which normally one rank senior. The performance appraisal is re-evaluated by a higher ranking officer (second evaluator) which is normally at least one rank senior to the first evaluator. The performance appraisal data for all IRBM's employees are kept by the Department of Human Management and is considered private and confidential. Any access to the data is only possible through special approval by the IRBM management. The other variables like the demographic factor, the question is a straightforward question and in the form of categorical. On the other hand, the external factors are measured via Likert-scale questions of five points.

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