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THE DETERMINANTS OF TAX EVASION: A LITERATURE REVIEW

Introduction

In theory, the maximization of fiscal revenue is the main administrative goal of any government of any country in any period. It is no doubt that tax evasion has weakened the government's tax and lowered the ability of government to provide public goods. Additionally, the tax evasion also causes some other problems being adverse to the economic development. For example, the tax evasion distorts the tax system, increasing the deadweight loss. While increasing the government's law enforcement costs, it also reduces the government tax revenue and the ability to repay. Therefore, to study the determinants of tax evasion is very important for us.

Allingham and Sandmo[1] set up the Expected Utility Maximization Model based on the assumption of rational man. They made theoretical analysis of the system of tax evasion, the study of tax evasion had become popular ever since then. Generally speaking, punishment and the audit rate are the main determinants of tax evasion for most countries. Lower rates tends to have incentive effects on tax evasion. But it does not reduce tax evasion in reality.

James Alm[2] pointed out that the average of the tax inspection rate had been below 1%, according to A-S model, under such a low tax rate, most people would choose tax evasion, however, the tax compliance was not low in reality. Though facing economic stimulus of reporting lower income, some inner honest taxpayers were also willing to bear all the taxes. So A-S model cannot explain the tax confusion phenomenon. In fact, A-S model makes the income endogenous by adding the labor supply. Law measures such as increasing the punishment amount and the audit rate may reduce the effective wage rate, reducing the total labor supply. However, if the labor supply curve bends backward, additional execution cost may

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[1] M.G. Allingham, A. Sandmo, *Income tax evasion: A theoretical analysis*, "Journal of Public Economics" 1972, 1, pp. 323–338.

[2] J. Alm, G.H. McClelland, W.D. Schulze, *Why do people pay taxes?*, "Journal of Public Economics" 1992, 48, pp. 21–48.

actually increase labor supply and the amount of unreported income. Risk aversion may also interact with labor supply, leading the lower tax compliance.

Many scholars have taken the opportunity of A-S model to study the problems of the tax evasion. In recent years, with the deepening of the research, scholars have found that conventional deterrence model based on A-S model far can explain tax compliance and tax evasion.

The paper is structured as follows, the following section consists the determinants of tax evasion, including some economic factors, demographics factors, behavior factors. Finally, the main points and results of the research work are summarized.

Determinants of tax evasion

The first: Economic factors

Economic factors include income level, sources of income, marginal tax rate, punishment amount and inspection rate, etc. Middle-income people are more willing to comply with the tax law, because they are worried about the psychological and mental punishment, the tax compliance of high and low income earners is relatively low[3]. The source of income also influences tax evasion. When a country's labor force were mainly engaged in agriculture, small trade volume, then the tax collection was difficult[4]. Taxpayers engaged in agriculture and self-employed professionals were most likely to evade tax, while taxpayers whose wage and salary needed to be paid in advance were most difficult to evade tax[5]. Comparing to public sectors who had a motive of declaration high profits, private enterprises were more willing to evade tax[6].

Some income sources need not declaration in the United States, for example, income from farms or wholly foreign owned enterprises. Comparing to the declared less amount of $289 of the entire population, statistics of TCMP in 1988 showed that the underreporting income of the taxpayer of American farms and sole proprietor reached $1058 and $827 respectively.

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[3] R. Mason, H. Lowry, An estimate of income tax evasion in Oregon, Working Paper. Corvallis, Oregon: Survey Research Center, Oregon State University 1981.

[4] G. Schmölders, *Survey research in public finance: A behavioral approach to fiscal theory*, "Public Finance" 1970, 25, pp. 300–306.

[5] I.G. Wallschutzky, *Possible causes of tax evasion*, "Journal of Economic Psychology" 1984, 5, pp. 371–384.

[6] M. Hanlon, L. Mills, J. Slemrod, *An empirical examination of corporate tax noncompliance*, [in:] *Taxing Corporate Income in the 21st Century*, eds. A. Auerbach, J. Hines, J. Slemrod, New York 2007, pp. 171–210.

Some low income career may be the source of non-withholding income, for example, the most income of the taxi drivers and the waitress may come from tips and bounty.

Assuming that the taxpayers' behavior comply to von Neumann-Morgenstern rational axiom conditions under the condition of uncertainty, a person's preferences could be expressed by VNM utility function[7]. Rational consumers would game on the expected utility maximization, the individuals traded off on the tax evasion and being caught and punished. Taxpayers were worried about that if they not fully declared their income, they might be caught and punished. When tax officials did not seize the omission of income, the taxpayers paid taxes only according to the declaration of the estimated income tax. But when tax officials seized the under-reporting income, in addition to make a supplementary payment of the tax, they must pay the fines estimated according to the omission reports of their income. The results of A-S model showed that if the government increased inspection rate or fine rate, the declared amount of the taxpayer would be increased, the amount of unpaid and tax evasion would be reduced. Yitzhaki argued that the tax rate in A-S model had the substitution effect and income effect. Increasing the tax rate would increase marginal benefit of tax evasion and omission reports of income, so the substitution effect increased the rates of tax evasion However, increasing the tax rate also reduced the taxpayer's wealth and omission reports of income, so the income effect would reduce the rates of tax evasion, therefore the net effect was uncertain.

Cowell and Gordon[8] assuming that the tax authorities estimated fines according to the tax evaders' leakage income, through the limitation of the budget balance, making tax evaders although benefit from unpaid tax, but also facethe loss of interest due to the loss of reducing the supply of public product. The results showed that the influence of increasing income tax rate to the omission reports of income depended on the relative result of the increase of marginal benefit due to higher tax rate, substitution effect due to the omission reports of income and the decrease of the wealth of the taxpayers and the omission reports of income.

Tittle and Logan pointed out that the belief of taxpayers fear and the probability of being certainly punished were more important than sanctions itself. Any measurement of deterrent effect on the current tax law enforcement practice must include a possibility of faith of audit. Werner W. Pommerehne and Hannelore Weck-Hannemann[9] argued that the tax evasion had positive correlation with marginal rate of tax and the rate of inflation, negative correlation with the inspection rate.

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[7]   M.G. Allingham, A. Sandmo, *Income tax evasion*…

[8]   F.A. Cowell, J.P.F. Gordon, *Unwillingness to pay: Tax evasion and public good provision*, "Journal of Public Economics" 1988, 36, pp. 305–321.

[9]   W.W. Pommerehne, H. Weck-Hannemann, *Tax Rates, Tax Administration and Income Tax Evasion in Switzerland*, "Public Choice" 1996, 88 (1–2), pp. 161–170.

When the taxpayer could be directly involved in making the government budget, the phenomenon of tax evasion would significantly reduce, instead, opposite.

In short, economic factors, literature concentrated on the level and source of income, marginal tax rate, punishment. But scholars far more reached a consensus on these factors that tax evasion had positive or negative correlation, because of the complexity of phenomenon of the tax evasion (far from simple, easy to explain as economic theory predicts).

The second: Demographics factors

Demographic factors mainly included factors such as age, gender and education. Age and gender were closely linked to the taxpayers' income levels and careers, they were important factors affecting the tax evasion. Older people were more likely to gain income from the non-withholding resources. For instance, TCMP statistics showed that the average level of compliance of married and over 65 were significantly higher than unmarried and under the age of 65. Men had more advantages than women to get those non-withholding professions. Women were mostly engaged in traditional professions, such as nurses, teachers, laboratory technicians, clerks, sales work or employes in the service industry. The salary was generally going to be paid in advance in these industries[10]. Age and gender had independent influence on tax compliance. Sutherland and Cressey[11] pointed out that the criminal behavior was committed more of the body strong and young people. But there's no clear whether this explanation was also adapted to the white-collar crime. Chronological age was the most important determinants of tax evasion[12]. The old had higher tax compliance than senior young[13]. Young people were mostly chasing risk, less sensitive to punish rate. The increase of the tax rate led taxpayers to be more poor and loss. Therefore, taxpayers sought to take more risk, decreasing the level of tax compliance[14].

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[10] M.A. Ferber, H.M. Lowry, *The Sex Differential in Earnings: A Reappraisal*, "Industrial and Labor Relations Review" 1976, 29, pp. 377–387.

[11] E.H. Sutherland, D.R. Cressey, *Criminology*, 8th ed., Philadelphia 1970.

[12] B.R. Jackson, V.C. Milliron, *Tax compliance research: Findings, problems and prospects*, "Journal of Accounting Literature" 1986, 5, pp. 125–165.

[13] C. Tittle, *Sanctions and social deviance: The question of deterrence*, New York 1980; A.D. Witte, D.F. Woodbury, *The effects of tax laws and tax administration on tax compliance: The case of the U.S. individual income tax*, "National Tax Journal" 1985, 38, pp. 1–13; J.A. Dubin, L.L. Wilde, *An empirical analysis of federal income tax auditing and compliance*, "National Tax Journal" 1988, 41, pp. 61–74; J.S. Feinstein, *An econometric analysis of income tax evasion and its detection*, "RAND Journal of Economics" 1991, 22, pp. 14–35; D.M. Hanno, G.R. Violette, *An analysis of moral and social influences on tax behavior,* "Behavioral Research in Accounting" 1996, 8, pp. 57–75.

[14] S. Dhami, A. al-Nowaihi, *Why do people pay taxes? Prospect theory versus expected utility theory*, "Journal of Economic Behavior & Organization" 2007, 64 (1), pp. 171–192.

The taxpayers' behavior was often far more complicated than the forecast of economic theory, which was the cause that traditional models can't fully explain. Sometimes, for example, tax compliance depended on the framing effect. In reality, for the same tax decision problem, because of the different methods of description, taxpayers showed the different risk preference and made different tax decision. The same question that two logical meaning similar claims had led to the different judgments. Under the positive framework, people tended to risk-averse preference for gains, while under the negative framework, people tended to risk-seeking preference for losses. Even if men and women had received the objective equivalence information, females had stronger willingness to comply with the information of communication framework of positive persuading than the negative framework information, while males responded better to the information of communication framework of negative positive persuading than the positive framework information[15].

The level of the tax compliance of the women was higher than men[16]. With the development of women's liberation movement, the gap of the tax compliance between men and women was narrowing[17]. However, since the research of Jackson and Milliron[18] studies had shown that the gap of the tax compliance between men and women still maintained[19]. Education on the impact of tax evasion was mainly including two aspects, with the increase of knowledge for tax evasion, people received a good education thought that the odds of tax evasion being caught were small, increasing the tax non compliance. The other was the education deepening the knowledge of the general level of financial knowledge, improving the tax compliance[20]. General education presented negative correlation with tax evasion.

For a long time, it was difficult to obtain demographic data, the demographic factors tended to be ignored, research in this field was less. However, in recent years, many scholars used the data from TCMP or their own survey to study how demographic factors affected tax evasion, founding some interesting conclusions not expected before, enriching the research contents of the determinants of tax evasion.

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[15] J. Hasseldine, P.A. Hite, *Framing, gender and tax compliance*, "Journal of Economic Psychology" 2003, 24, pp. 517–533.

[16] J. Vogel, *Taxation and Public Opinion in Sweden: An Interpretation of Recent Survey Data*, "National Tax Journal" 1974, 27, pp. 499–513; R. Mason, L. Calvin, *A study of admitted income tax evasion*, "Law and Society Review" 1978, 12, pp. 73–89.

[17] B.R. Jackson, V.C. Milliron, *Tax compliance research…*

[18] *Ibidem.*

[19] N. Brooks, A.H. Doob, *Tax evasion: Searching for a theory of compliant behavior*, [in:] *Securing compliance: Seven case studies*, ed. M.L. Friedland, Toronto 1990, pp. 120–164; J.H. Collins, V.C. Milliron, D.R. Toy, *Determinants of tax compliance: A contingency approach*, "Journal of the American Taxation Association" 1992, 14, pp. 1–29.

[20] B.R. Jackson, V.C. Milliron, *Tax compliance research…*

The third: Behavior factors

Behavior factors mainly included tax fairness, the complexity of tax system, taxpayers' understanding of the tax authorities, social customs and tax moral, etc. Spicer, Song and Yarbrough found an obvious negative relationship between tax fairness and tax evasion[21]. Tax fairness and the perception of the improvement to tax system had obvious correlations, tax fairness and tax evasion had negative correlation[22]. People were willing to pay taxes, when the tax authorities or the measures were fair. Southern Europe were trying to improve tax compliance by strengthening law enforcement for a long time in history, however, these countries had the lowest tax compliance in Europe[23]. The more understanding of taxpayers to tax authorities, the lower the tax evasion would be[24]. Individuals responded differently, when facing gains and losses. Kahneman and Tversky argued that the basis of individual responding was the value function rather than utility function in economic model[25]. Value function did not change with the income level itself, but it changed with the changing of the reference point of income level, value function to be steeper to beneficiaries than to losers, as compared with the same income, people hate more losses, for beneficiaries it was concave (risk aversion), but convex for losers (risk-seeking), so when individuals at risk and had the opportunity to game, they would show risk aversion behavior. Conversely, when the same individuals were facing speculation and may suffer from losses, they became a risk lover. The assumptions about tax compliance were subtle and powerful. Tax was a kind of loss for individual, the individual was likely to show a kind of pursuit of risk behavior, that was to say, these individuals declared less income than the expected utility theory model had predicted.

Complex tax system would only led companies employing tax advisers to slip through, and led enterprises steadfast competition and focusing on their business to be disadvantage. So keeping the simplicity of tax rules was important. Strict assessment and implement policies would increase the social costs, but a less strict and loose policy might encourage taxpayers and tax authority to cooperate to perform the cumbersome tax payment procedures. In addition, the tax rules once revised,

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[21] M.W. Spicer, *A behavioral model of income tax evasion*, unpublished Ph.D. Thesis, Ohio State University 1974; Y.D. Song, T.E. Yarbrough, *Tax ethics and tax attitudes: A survey*, "Public Administration Review" 1978, 38, pp. 442–452.

[22] A. Hite, M.L. Roberts, *An analysis of tax reform based on taxpayers' perceptions of fairness and self-interest*, "Advances in Taxation"1992, 4, pp. 115–137.

[23] B.R. Jackson, V.C. Milliron, *Tax compliance research…*

[24] I.G. Wallschutzky, *Possible causes…*; S. Klepper, D. Nagin, *The anatomy of tax evasion*, "Journal of Law, Economics and Organization"1989, 5, pp. 1–24; N. Brooks, A.H. Doob, *Tax evasion…*

[25] D. Kahneman, A. Tversky, *Prospect theory: An analysis of decision under risk*, "Econometrica" 1979, 47, pp. 263–291.

stop tinkering, the faulty practice had led large discounts of all the efforts of trying to make the tax laws more rational.

Self assessment tax system reduced the understanding between taxpayers and tax authorities, while increasing the rate of the tax evasion[26]. Although a lot of people had doubts about the injustice of the tax law, considering the provisions of the tax law, tax evasion would be punished or worried about once tax evasion released, they would make a loss of the reputation or on moral good faith principle, even if they had doubts about tax fairness, they also dared not to evade tax, which might be the cause that tax cognitive could not explain the reasons for tax evasion behavior. Some countries set the auditing and punishment level very low so that rational individuals to evade tax, however, we still could see a high degree of tax compliance. Noting that tax compliance could not be completely explained by law enforcement level. In addition to the auditing and punishment, the researchers began to analysis the other determinants of tax evasion, tax moral was one of the important factors. Tax moral was the individual's willingness to pay tax, moral obligation or their contribution to society through tax. Tax moral also included regret and guilt due to tax evasion, the more regret and guilt of taxpayers', the stronger he was willing to pay taxes. Religious belief was the potential determinant of tax moral and the intrinsic motivation people paying taxes. We often used the church attendance, religious education and whether an active member of the church or religious groups to analyze the measure of religious belief. Even in other factors under control, such as corruption, integrity, demographic and economic factors, the empirical results showed that the religion was also a positive determinant of tax compliance.

By the empirical study, Spicer, Spicer and Lundstedt, Tittle, Riahi-Belka-oiu, concluded that countries' tax evasion had negative correlation with the determinants of tax moral[27]. Tax compliance was connected with laborers market behavior. Different professions might have different degree of tax evasion, that is to say, tax evasion was correlated with wage and tax bracket, it could affect people's career choices, human capital investment and labor supply. Social norms was a kind of behavior patterns that others were easy to judge, maintained by its license and not permission of the society. Although it was difficult to define, social norms could

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[26] V. Tanzi, *Policies, institutions and the dark side of economics*, Cheltenham, UK 2000; T.K. Sarker, *Improving tax compliance in developing countries via self-assessment systems. What could Bangladesh learn from Japan?*, "Asia-Pacific Tax Bulletin" 2003, 9, pp. 170–176; B. Torgler, K. Murphy, *Tax morale in Australia: What shapes it and has it changed over time?*, "Journal of Australian Taxation" 2004, 7, pp. 298–335.

[27] M.W. Spicer, *A behavioral model…*; M. Spicer, S. Lundstedt, *Understanding tax evasion*, "Public Finance" 1976, 31 (2), pp. 295–305; C. Tittle, *Sanctions and social deviance: The question of deterrence*, New York 1980; A. Riahi-Belkaoiu, *Relationship between tax compliance internationally and selected determinants of tax morale*, "Journal of International Accounting, Auditing and Taxation" 2004, 13, pp. 135–143.

distinguish through the individual rationality to the process rather than the result. Generally speaking, social norms and social customs, tax moral, patriotism, altruism, moral sense, guilt were the same. As long as the individual felt his behavior was conforming to the norms of the society, he would not have to evade taxes. Tax moral was the internalization of social norms, it increased the cost of tax evasion[28].

Traxler examined A-S model with tax moral, the empirical results showed that the willingness of taxpayers' tax fraud depended on the behavior of their fellow citizens[29]. If their friends and other residents paid taxes, the more they were willing to pay taxes. The more people of tax evasion, the more they would tend to think that their hidden income was reasonable. In this regard, the individual decision was depended on each other. Taxpayers were conditional cooperators, they conditioned on the other members paying taxes for the society. For example, when they knew the exact data of the other honest taxpayers paying taxes, they were more likely to be honest and pay tax.

Putting the hypothesis of economic's limited rationality into research framework of tax evasion, considering the determinants of tax evasion, more in line with the reality, better explained the behavior of tax evasion of the people. The research space in the field was very big, needed to be focused on in the future.

Conclusion and Enlightenment

Tax evasion is one of the important research issues of public economics. Indeed, there are many reasons for emphasizing the importance of it, but the most obvious is that it reduces the tax revenue and lowers public service provided to the taxpayers according to the law. In addition, the individual changes their behavior to tax fraud, for example, changing the work time, professional entry and risk bearing, etc., so as to make the optimal allocation of resources unreasonable under the condition of the market. The unequal distribution opportunity due to tax evasion has wrought havoc on the tax lateral fair, leading the production invalid, unfair distribution of tax burden between companies. Tax evasion also enables the government to spend resources auditing, measuring the tax evasion, punishing tax evaders. Tax evasion causes additional loss and increases tax compliance cost.

If you want to design a suitable policy to ensure tax compliance, it is necessary to examine carefully the motivation of taxpayers to comply with the tax law. In recent years, a large amountof literature have studied tax evasion, but most of the

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[28] J. Elster, *Social norms and economic theory*, "Journal of Economic Perspectives" 1989, 3, pp. 99–117.

[29] C. Traxler, *Social norms and conditional cooperative taxpayers*, "European Journal of Political Economy" 2010, 26 (1), pp. 89–103.

scholars investigated the problem from the economy field. Therefore, in addition to focusing on the traditional economic determinants of tax evasion, we should actively explore the non-economic factors such as demographic and behavioral. Scholars should use empirical analysis method to study tax compliance from multiple perspectives such as cultural, tax fairness and tax moral. Then, we can be more comprehensive understanding determinants of tax evasion, enhancing citizens' tax consciousness, improving citizens' tax compliance. At the same time, the author think that studying the determinants of tax evasion in detail also have some certain theoretical value and practical significance for studying tax, officials' tax law enforcement and tax practice in the future.

STRESZCZENIE

DETERMINANTY UNIKANIA OPODATKOWANIA – PRZEGLĄD LITERATURY

Zgodnie z tradycyjną teorią sankcje i poziom audytu stanowią główne przyczyny uchylania się od opodatkowania, a zwiększenie kar i zmniejszanie audytu zmniejsza ilość przypadków uchylania się od opodatkowania. Jednak rzeczywistość jest daleka od tego. W artykule wyjaśniono zjawisko unikania opodatkowania za pomocą efektu ramki z perspektywy teorii. Wiek, płeć i moralność podatkowa stanowią ważne determinanty uchylania się od opodatkowania i odgrywają dużą rolę. Naukowcy nie osiągnęli porozumienia, jakie konkretnie czynniki odgrywają dominującą rolę w przypadku uchylania się od opodatkowania. Jak dotąd najbardziej spójne są te poglądy w kręgach akademickich, w których wskazuje się, że czynniki pozaekonomiczne mają większy wpływ na uchylanie się od opodatkowania niż czynniki ekonomiczne.