

Tax Compliances in Korea and Japan: Why are they different?

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Abstract

We analyze the determinants of tax compliance, and illustrate why they have different levels of tax compliance between Korea and Japan. Japan has much higher level of policies in both tax audit and penalty structures than those of Korea. The disclosure policy of tax information is also different, such that an amount of tax evasion and the information about tax return are strictly regulated in Korea, however, they are selectively released in Japan. Tax culture may be one fundamental determinant for explaining the tax compliance. We examine its endogenous characteristic. Our estimates show that Japan has the higher level of tax culture than that of Korea. We also illustrate that the legal system is relatively more important factor to determine the level of tax culture than other branches of government, which eventually affects the level of tax compliance.

JEL Classification: H8 .

. Introduction

The theory of tax compliance was pioneered by Allingham and Sandmo (1972) within the framework of game theory. Tax evasion was treated as a risky asset, which is usually determined by tax audit and penalty rate. The tax compliance behavior has been popularly explained by the punishment oriented policies, like tax audit and penalty rate (for example, Alm, Bahl, and Murray (1993), Alm, McClelland, Schulze (1992), Fisher, Wartick, and Mark (1992)). However, a game theoretical approach could not completely explain the tax compliance behavior. There have been many studies to explain the behavior of tax compliance in more realistic situations¹. Their focuses have been on the determinants of tax compliance with economic and noneconomic factors. Noneconomic factors, which had been neglected by economists, have been popularly introduced to explain tax compliance by using the economic framework (for example; Alm, Jackson, and McKee (1993), Alm, Sanchez, and DeJuan (1995), Falkinger and Walther (1991), Nagin (1990), Smith and Stalans (1991)). They have tried to include many noneconomic factors which are, for example, the willingness to pay for public provision, public education, tax morale, and etc. Many empirical studies have been done with this line of the theoretical argument, especially with the development of the experimental data in the research of tax compliance².

The concept of tax culture has been much discussed to explain the difference of tax compliance behaviors in many countries³. Tax culture, which is also differently expressed as tax morale, was broadly defined, so that the behavior of tax compliance was furthermore explained as the traditional approaches have some limitation to fully explain the behavior of tax compliance. A comparative analysis for tax compliance might be one approach to explain the effect of tax culture on tax compliance (for example, Cunnings, Martinez-Vazquez, and McKee (2001), Torgler (2004)).

Tax evasion has been one of the hot topics in tax administration of Korea. There are several studies to estimate its serious situations of tax evasion, for example, by Hyun and Yoo (1998), Schneider and Klinglmair (2004). Japan is a developed country which has much similar historical backgrounds with Korea. However, its level of tax evasion was evaluated to be much lower than that of Korea. Identifying the reason why two countries have such different levels of tax compliance might be an interesting area for research, as tax compliance can be explained by many factors including tax system and tax culture. However, the comparative study of tax compliance, especially for Korea and Japan, has not been analyzed so far, even though there are several studies to estimate the determinants of tax compliance for each country respectively⁴. The research framework in the field of tax compliance can be easily applied to these two countries to more systematically explain the behavior of tax compliance.

The purpose of this study is to empirically find the determinants of tax compliance in Korea as well as Japan and to illustrate why these two countries have different levels of tax compliance. We review the differences in the punishment policies with tax audit and penalty structure, for protecting tax evasion

¹ See Alm (1999), Andreoni and Feinstein (1998), Slemrod (1992) for the comprehensive survey of tax compliance.

² The use of experimental data has been popular in the research of tax compliance with the development of experimental economics. See Davis and Holt (1993) for the application of experimental economics.

³ Nerre (2001) shows a broad definition of tax culture with historical backgrounds for each country.

⁴ One example is Park and Hyun (2003) for the case of Korea.

between the two countries. We also discuss their differences in noneconomic factors. Furthermore, we estimate the determinants of tax culture by pooling the dataset of Korea and Japan from the World Value Survey.

This paper has the following structure: Section 2 reviews a theoretical model for explaining the tax compliance behavior. Section 3 finds the differences in policies of economic and noneconomic factors between Korea and Japan, with some simulations of these differences from the theoretical model. Section 4 discusses the importance of tax culture in tax compliance, and explains the determinants of tax culture for Korea and Japan, Lastly, Section 5 concludes.

.The theoretical model of tax evasion

A typical model of tax compliance is to explain tax evasion of an individual taxpayer under the individual income tax system. Our discussion of tax compliance is not only about the individual income tax, but also about all tax subjects. However, the theoretical model has been developed under the framework of the individual income tax, so that we briefly review the theoretical model under the individual income tax system.

The model briefly introduced below is a modified version of the income tax evasion model by Allingham and Sandmo (1972). A taxpayer is exogenously endowed with income, I , known only to himself and not to the tax authorities. Tax is levied at a constant rate, t , on declared income, D . Every taxpayer is, however, subject to tax audit with probability, p . It is assumed that once the audit is initiated, the tax authorities is able to identify exactly the actual income and hence impose fine on the unpaid tax bill, $t(I-D)$, at the rate of π which is higher than 1. The after-tax income can be written as $I_C = I - tD - \pi t(I - D)$ when the taxpayer is subject to audit and $I_N = I - tD$ when he is not. We define compliance ratio, c , as the ratio of the declared income to actual income, $c = \frac{D}{I}$, and rewrite I_C and I_N as $I_C = I - tcI - \pi t(I - cI)$ and $I_N = I - tcI$.

The taxpayer maximizes the expected utility with respect to the compliance ratio c .

$$\begin{aligned} \max_c E[U] &= (1-p)U(I - tcI) + pU(I - tcI - \pi t(I - cI)) \\ &s.t. \quad 0 \leq c \leq 1 \end{aligned}$$

We obtain the first-order condition for an inner solution;

$$\frac{\partial E[U]}{\partial c} = -(1-p)tU'(I_N) + pt(\pi-1)U'(I_C) = 0 \quad (1)$$

A strict concavity of the utility function guarantees a unique solution. Then, we can solve (1) for c to get;

$$c = f(I, t, p, \pi) \quad (2)$$

The comparative static analysis tells us the directions of change in the tax compliance ratio when the exogenous variables change individually.

$$\frac{\partial c}{\partial p} > 0 \quad (3)$$

$$\frac{\partial c}{\partial \pi} > 0 \quad (4)$$

$$\frac{\partial c}{\partial t} \begin{matrix} \geq \\ < \end{matrix} 0 \quad (5)$$

The relation between (3) and (4) implies that as tax audit is strongly implemented and the rate of penalty is increased, the level of tax compliance is increased as well. The relation of (5) indicates that the tax rate does have an ambiguous effect on the level of tax compliance, depending upon the taxpayer's attitude toward risk. These theoretical results support that the punishment oriented policies are effective in enhancing tax compliance for each taxpayer.

. Policies for tax compliance

In this section, we review the existing literatures on the measurement of tax compliance for Korea and Japan. We also compare the policies with an aim to protect the tax compliance behavior between the two countries. They include three economic factors, and one non-economic factor for this comparison, and some simulations for the comparison of policy mixes.

1. The measurement of tax compliance

As our concern for study is about the difference of tax compliances between the two countries, we need to get the exact estimates for the levels of tax compliance of Korea and Japan respectively. There has been no empirical evidence to directly estimate the sizes of tax evasion for the two countries together. There are several empirical studies to estimate the level of tax evasion for each country separately. For example, Hyun and Yoo (1998) shows the empirical results for the levels of tax evasion for several countries, including Korea but not Japan⁵. One of the main reasons that there has been no

⁵ Hyun and Yoo (1998) applied the same methodology into the ten countries by using Luxembourg Income Study database. For Korea, the self-employed underreport their real income by 25% of the reported income. Germany showed much lower level, and the countries in transition show comparatively much higher levels.

empirical evidence for the case of Japan is that the use of micro-level data for income and expenditure has not been allowed by the Japanese government⁶.

We use some estimates of the black economy for a comparative analysis as a proxy measurement. One of the most comprehensive surveys about the size of the shadow economy, which was done by Schneider and Klinglmaier (2004), shows the estimates of the size of the shadow economy with respect to GDP for the world. The size of the shadow economy might include all levels of tax evasion in all tax subjects. As our study discusses tax evasion in the income taxes, the level of tax evasion for our concern would be some proportion of these estimates of the total shadow economy. However, as the difference in the size of the shadow economy between the two countries reaches almost 16% of GDP, we assume that Korea has more tax evasion for all tax subjects. These estimates show the aggregated summary for tax evasions, however, do not indicate the level of tax evasion for each taxpayer. Korea has much higher proportion of self-employed group with respect to the total employment than that of Japan. It is so difficult to insist that the self-employed group in Korea has higher evasion than that of Japan, with just comparison of aggregate estimates of the shadow economy. However, as Korea has been much different from Japan in the total size of the shadow economy by 16% of GDP, it might not be too much exaggeration to assume that each taxpayer with evasion in Korea has a higher level of evasion than Japan.

We use these estimates as proxy measurements to indicate the levels of tax compliance between Korea and Japan. Korea and Japan have the size of 27.5% and 11.3% separately by their estimates of an average value for 2000 and 2001. Korea has more than twice the size of the shadow economy with respect to GDP than that of Japan. We interpret that Korea has a higher level of tax evasion than Japan.

Table 1: Comparison of shadow economies between the two countries

Country	Shadow economy / GDP
Korea	27.5
Japan	11.3

Source: Schneider and Klinglmaier (2004); The numbers are average values for 2000 and 2001.

2. Tax audit

Tax audit is one of the most effective policies to protect the tax evasion behavior. The level of tax audit can be determined by two elements; one is how many taxpayers are selected for audit, and the other is how much intensive the audit is. The first element is easily measured by the number of audited taxpayers divided by the total number of taxpayers. However, the latter is so difficult to measure due to non-published information about tax audit process. It is commonly measured by the first element to indicate the level of tax audit for practical comparison.

Tax audit needs the administrative cost. With the constraint of the fixed administration cost, an increase in the level of tax audit is required to decrease the level of other administrative functions, like

⁶ There is a few study to estimate the size of the black economy. However, its analysis was based on time series data, not on micro-level data for each individual or a household.

taxpayer service, tax collection, etc. As our concern is about the relationship between tax audit and tax evasion, we do not consider the change in other tax services by the change of tax audit that tax authorities respond.

We compare the level of tax audit for the two countries. Table 2 shows the ratio of the number of taxpayers for audit with respect to the total number of taxpayers with tax return filing for each year. Korea shows much lower ratios in both the individual income tax and the corporate income tax than those in Japan over times. Especially, Japan has almost three times higher value in the ratio of selected taxpayers for audit than that in Korea. We find that there exists a dramatic difference in the levels of tax audit between Korea and Japan.

Table 2: Comparison of the ratios of selected taxpayers for audit

(Units: %)

Year	Individual income tax		Corporate income tax	
	Korea	Japan	Korea	Japan
2000	0.26	1.24	1.83	4.96
2001	0.39	0.99	1.76	4.33
2002	0.34	1.03	1.86	4.21
2003	0.22	1.02	1.43	3.94

Note: Number of selected taxpayers for audit / Total number of taxpayers with tax return

3. Penalty

The structure of penalty system is so different between Korea and Japan, so that it is hard to directly compare it. One feature is that Korea has various types of penalty rate by the different tax subjects, however, Japan has the different structure of penalty rate by the types of taxpayer. In Korea, penalty rate has been separately applied by the different tax subjects like the individual income tax, capital income tax, value added tax, etc. Furthermore, the penalty rate for each tax subject are differentiated by the different types of evasion, like non-filing, timely filing but under-reporting, no bookkeeping, no receipts, etc. Thus they are so complicated to explain the general features of penalty structures of Korea.

In Japan, penalty structures are comparatively simpler than that of Korea. One feature in Japan is that the penalty rate is differently applied to the types of taxpayers, depending upon their evasion behaviors. If some taxpayers had intentional evasions, the penalty rate is much higher than that of unintentional evasions.

Table 3 shows the comparison of penalty rate for the several cases between the two countries. As two kinds of evasion behavior are most common in tax compliance, which are timely filing but underreporting, and nonfiling, we compare the penalty rate for these two cases. Even though Korea has the different penalty rate for each different tax subject, we compare the two tax subjects of the individual income tax and the capital gain tax for the case of individual taxpayer. In general, we find that Korea has a higher level of penalty for evasion without intention than that in Japan. However, Japan has much higher level of penalty rate for intentional evasion than that in Korea.

Both countries have the same system that tax authorities prosecute some intentional and malicious tax evaders for criminal responsibility, after tax audit. This system might play an important role in increasing the level of penalty rate for the tax evasion behavior. The number of prosecuted cases by tax authorities might be a proxy indicator to compare an additional penalty rate between the two countries. Table 4 shows the comparisons of the number of prosecuted cases in 2003. Korea and Japan have the cases of 164 and 147 separately. As the number of total taxpayers in Japan is higher, it can be interpreted that Korea might have the higher rate to prosecute some malicious and intentional tax evaders than that in Japan. With the combination of penalty structure and criminal prosecution system, we may insist that Japan has higher level of penalty rate for the case of individual taxpayer with intentional and malicious evasion.

Table 3: Penalty structures in Korea and Japan

	Korea		Japan	
	Individual income tax	Capital gain tax	Evasion without intention	Evasion with intention
Timely filing, but under-reporting	Almost 10%	Almost 18%	10% or 15%	35%
Non-filing	20%	10%	15%	40%

Table 4: Number of prosecuted cases for tax evaders (2003)

Korea	Japan
164	147

4. Tax rate

A theoretical model for tax compliance tells us that the tax rate has an ambiguous effect on the level of tax compliance, depending upon taxpayer's attitude toward risk. Furthermore, there has been contradictory empirical evidences on the effect of tax rate on the level of tax compliance. Thus it is so difficult to discuss the impact of tax rates on the level of tax compliance for a comparative analysis of this study. We just compare the statutory tax rates between the two countries, to find how much difference they have for each tax subject. Table 5 shows the comparison of the statutory tax rates for both the individual income tax and the corporate income tax.

For the individual income tax, the two countries have the similar structures in the statutory tax rate with the four multiple rates and their values of progressive system. Japan has a little higher rate than that of Korea in general. For the corporate income tax, Japan has a slightly higher rate, but the same with two brackets, than that of Korea. We find that two countries have almost a homogeneous structure in the statutory tax rates, however, Japan has a little higher tax rate in both the individual income tax and the corporate income tax rather than those in Korea. We can assume that the effect of tax rate on the level of tax compliance is negligible, as there is a little difference in the tax rates between the two

countries. Thus our comparative analysis of tax compliance does not consider the impact of tax rates on the level of tax compliance.

Table 5: Comparisons of statutory tax rates between two countries

Tax subject	Korea	Japan
Individual income tax	9, 18, 27, 36	10, 20, 30, 37
Corporate income tax	15, 27	22, 30

(Units: %)

5. Simulations for policy mix

The theoretical model that we discussed earlier can give us an interesting implication to compare the effectiveness of policy mixes to protect tax evasion. We already compared the effectiveness of each policy, for example the tax audit or the penalty structure separately, but it does not give us all features how much effective the policy mixes with several policies are together. The theoretical model can give us a simple way to compare the effectiveness of policy mixes together for Korea and Japan. We need to have simple assumptions for this purpose. For more practical application from the theoretical model, we assume that the utility has the following functional form:

$$U(I) = I^{1-e} / (1 - e)$$

Where e indicates the degree of relative risk aversion. The higher value of e implies more risk aversion. We assume $e=0$ for practical convenience, so that it leads to $U(I) = I$. Expected utility that each taxpayer maximizes has the following expression;

$$E(U) = (1 - p\pi)tI + (p\pi - 1)cI$$

As expected utility has a linear relationship with the degree of reported income, c , the choice of c depends upon the sign of $(p\pi - 1)$ as follows:

$$\text{if } p\pi - 1 > 0, \text{ then } c = 1$$

$$\text{if } p\pi - 1 < 0, \text{ then } c = 0$$

It means that as far as $p\pi > 1$, taxpayer will comply completely. The behavior of taxpayer will be determined by the combination of two policy tools, which are tax audit and penalty rate. We use the probability of tax audit for the income tax in 2002, and the penalty rate for non-filing case⁷. Table 6 shows the comparison of the effectiveness of these policies between the two countries. The influence

⁷ In Japan, there are two kinds of penalty rates for non-filing. One is the regular case with 15%, and the other is the case of fraud with 40%. In Korea, there is no distinction between two cases. We apply the case of fraud in penalty rate for Japan, as it represents the highest value.

of these policy mixes, $p\pi$, shows much difference between the two countries. Japan has much higher value than that of Korea, even though the two countries have the value less than 1 together. From our simulation, taxpayers for both countries will choose $c=0$, which means the complete evasion. As the theoretical model considers only the policies with punishment, it cannot fully explain the real behavior of taxpayers. However, we may get one implication that Japan has much stronger policies of punishment for tax evasion.

Our simulation shows that all taxpayer should evade completely. However, most taxpayers in both countries show the high levels of tax compliance. It implies that our model is not enough to explain tax evasion behavior by taxpayers, as we just consider the several policies with punishment. We need to extend our model of tax evasion with consideration of additional factors for explaining the behavior of tax compliance.

Table 6: Comparison of tax audit and penalty rate between Korea and Japan

Country	p	π	$p\pi$
Korea	0.34	0.2	0.068
Japan	1.02	0.4	0.408

6. Non-economic factor for compliance: information disclosure

There are many noneconomic factors to affect the level of tax compliance. Many researches have been done to include these noneconomic factors to explain tax compliance behavior under the framework of economic analysis (for example; Alm, Jackson, and McKee (1993), Alm, Sanchez, and DeJuan (1995), Park and Hyun (2003)). These noneconomic factors include the willingness to pay for public provision, public education, tax morale, tax information, and etc. As there are some limitations to include all noneconomic factors for the analysis of tax compliance behavior, most studies pay attention to just one or several factors for rigorous analysis. Even though we understand that noneconomic factors are the important determinants for the level of tax compliance, it is hard to compare these noneconomic factors between Korea and Japan, due to limited information. We just focus on one noneconomic factor to partly explain the difference of the levels of tax compliance between them, which is the policy of tax information disclosure.

The release of tax information might be one important determinant for tax compliance, as it gives taxpayers an exact figure about tax evasion. However, there is few empirical evidence whether or not the release of tax information has an effect on the level of tax compliance. Most of developed countries release much tax information for taxpayers's right to know, not for inducing more tax compliance of taxpayers. For discussing the tax information disclosure, we conceptually divide the tax information into the two components. One is the tax statistics, and the other is the tax return information for each taxpayer. There are so many types of information in tax statistics. One of the most important statistics for the purpose of increasing the level of tax compliance is the exact amounts

of tax evasion. The other information is the tax return information for each taxpayer. There are some exceptional countries, like Finland and Norway, which make the tax return information for each taxpayer public. However, in most developed economies, the tax return information for each taxpayer is strictly prohibited to release to the public for the protection of private information. The statistics about tax evasion has been popularly released to the public for most developed countries. This information disclosure might be not only for taxpayers' rights to know, but also for inducing more tax compliance.

Table 7 shows the comparison of policies about the tax information disclosure between the two countries. In Korea, there has been no formal information about the size of tax evasion after tax audit by tax authorities. Furthermore, the tax return information for each taxpayer has been strictly restricted to public release. However, Japan shows completely different patterns in the information disclosure policy. The average amounts of tax evasion for the individual and the corporate evaders after tax audit have been released to the public⁸. Furthermore, some private information for the richest group of individuals and corporations have been released to the public under the legal basis. There are three tax subjects under this public notification system, which are individual income tax, corporate income tax, and inheritance tax⁹. For the individual income tax, taxpayers who pay more than 10 million Yen for their tax payment have been notified to the public with their names, addresses, and tax amounts. This highest income group amounts to around 0.11% of total taxpayers who filed the tax returns in 2002. For the corporate income tax, corporations who have more than 20 million Yen for their incomes have been notified to the public with their names, representative persons, accounting periods, and their incomes. These corporations account for around 4.2% of total corporations in 2002. For inheritance tax, when the amounts of taxable value of properties for inheritance are over 200 million Yen or total amounts of decedent's properties are over 500 million Yen, their names and the values of properties are notified to the public. We find that Japan has much more active policies for the tax information public release than that in Korea.

Table 7: Comparison of disclosure policy in tax information

	Korea	Japan
Statistics for evaded amounts	No	Yes
Information for individual taxpayer	No	Yes (for some income groups)

⁸ For example, an average income declared in 2002 individual income tax return was 5.5 million Yen, and unreported income after tax audit averaged 6.8 million Yen per case. For corporation, an average declared income was 41.68 million Yen, and an average unreported income was 12.79 million Yen in 2002.

⁹ The public notification system has been playing an important role in checking taxpayers with the public since 1950 when introduced for the first time. This system has been occasionally utilized for the purpose other than the original ones, posing a concern about possible disturbance of privacy. Currently, this system has the legal base with Income tax law Article 233, Corporation tax law Article 152, Inheritance tax law Article 49(1) and 49(2).

. Tax culture and tax compliance

Most economic analyses have concentrated on the policy tools for punishment, as they are easy to handle with the quantified approach. However, there are so many other determinants of tax compliance for taxpayers¹⁰. It is so difficult to explain all factors in the determinants of tax compliance. We have compared several factors to explain the difference of tax compliances between the two countries. However, our analysis so far just partially explain the difference of tax compliances between the two countries. We use the concept of tax culture to explain the difference in tax compliance, in addition to the several factors that we have discussed so far. Tax culture is not conceptually organized well yet, so that it has the different expressions like tax morale, social capital stock, etc¹¹. We define, here in this paper, that tax culture is all residual factors that have not been considered to explain the behavior of tax compliance for this study.

1. Difference in tax culture

Tax culture is very difficult to measure, as it includes various attributes. We use the World Value Survey data for a comparative analysis between Korea and Japan. The World Value Survey is a worldwide investigation of socio-cultural and political changes, which includes the cases of Korea as well as Japan. There are so many variables for this dataset. One of them is about the attitudes toward cheating on taxation, which can be an indirect proxy for measuring the level of tax culture for each country. This attitude was measured on the 10 different scales, where the value of one indicates that cheating on taxation is never justifiable and the value of ten means it is always justifiable. This dataset has been regularly surveyed¹², and the most recent ones for public use are the 1996 one for Korea and the 1995 one for Japan.

Table 8 shows the frequency of response for “tax cheating is never justifiable” with respect to the total respondents and the average value for scaled response. Korea shows a lower proportion of never justifiable response than that of Japan. It also shows the consistent feature that the average value for response in Korea is higher than that in Japan. We find that Japan has the higher value in tax culture than that in Korea.

¹⁰ One study by IRS in US shows there are around 60 factors for the determinants of tax compliance.

¹¹ One popular definition of tax culture has been done by Nerre (2001) as follows:

“A country-specific tax culture is the entirety of all relevant formal and informal institutions connected with the national tax system and its practical execution, which are historically embedded within the country’s culture, including the dependencies and ties resulting from their ongoing interaction.”

¹² The first one was carried out in 1981 for European Value Survey. The second wave was completed in 1990-1991 designed for global use. The third one was carried out in 1995-1996, and the fourth one made in 1999-2001. As the third one is the most recent one which can be accessed by the public, we use the third wave for analysis.

Table 8: Attitude difference toward cheating on taxes

	Korea (1996)	Japan (1995)
Never justifiable (%)	71.3	80.6
Average value for scale	2.10	1.52

Note: Attitude scale ranges from 1 to 10, and the value of 1 means that cheating on taxes is never justifiable. The sample sizes are 1,499 and 1,478 for Korea and Japan separately.

2. The determinants of tax culture

Next question for analysis is why Korea has a lower level of tax culture than that of Japan. We need to estimate the determinants of tax culture to answer this question¹³. Our hypothesis is that tax culture is influenced by the public attitude toward the government in a broad sense, which includes executive, legislative, and legal branches. If people distrust the government, they would cheat the taxation easily. However, they will comply more voluntarily with more trust toward the government. We choose three factors for the independent variables which determine the level of tax culture, which are the legal system, the national government, and the parliament. We assume that the attitudes for these three kinds of the government jointly determine the level of tax culture for both countries. These attitudes for the independent variables were measured with four different scales, where the value of one means the highest confidence, and the value of four means the least confidence. Thus less value indicates more confidence for each branch of the government.

Table 9 shows the comparison of these responses toward each branch for Korea and Japan, by the frequency of the response with positive attitude. For the legal system, Japan shows the higher frequency than that of Korea. However, Korea shows the higher frequency for the trust toward the national government. For the parliament, Korea shows slightly higher value than Japan.

We estimate the relationship between the level of tax culture and the attitudes toward three government branches, by using the weighted least squares. As we assume that the level of tax culture is jointly determined by the attitudes toward three branches of the government, we pool the dataset of Korea and Japan together to measure the effect of each independent variable on the level of tax culture. Furthermore, we include employment status as one explanatory variable for the determinant of tax culture. As discussed earlier, the self-employed group has much more tax evasion than salaried employees. It is generally assumed that the self-employed group might have the lower level of tax culture than that of salaried employees. We use a regression model to estimate these relationships.

Table 10 shows the empirical results for three different regressions. The first column with the pooled data of Korea and Japan indicates that the attitudes toward the national government and the parliament do not influence the level of tax culture as their estimates have the statistically insignificant levels. However, the legal system has the influence on the level of tax culture in a relatively more significant level. The self-employed group has the lower level of tax culture than salaried employees. The

¹³ Torgler (2004) shows the first empirical evidence for the determinants of tax culture by using the same dataset of World Value Survey. We closely follow the basic structure of his work, however, focusing on the cases of Korea and Japan.

dummy variable indicating the difference in the level of tax culture in Japan shows the negative value in a statistically significant level. It implies that Japan has the higher level in tax culture than that of Korea.

It might be possible for Korea and Japan to have different characteristics in determining the level of tax culture with three branches of the government. For this purpose, we separately estimate the determinants of tax culture for each country. For Korea, all three branches of the government do not determine the level of tax culture, as their estimates are so statistically insignificant. Furthermore, the impact of the self-employed group on the level of tax culture is so weak, which implies that there is no difference in the levels of tax culture between the self-employed and salaried employees. Consequently, our model does not explain the determinants of tax culture in Korea, as it shows the insignificant level of F values.

However, Japan has the different feature, as third column shows. The legal system has the relatively much more influence on the level of tax culture in Japan. It indicates that when Japanese have more trust toward the legal system, they have a higher level of tax culture. Furthermore, the self-employed group shows the lower level of tax culture at a highly significant level. This model explains the determinants of tax culture in a case of Japan, in a statistically significant level.

We draw relatively weak empirical evidence for the determinants of tax culture from our analysis. However, we illustrate that Japan has a higher level of tax culture than that of Korea, from the model of the determinants of tax culture. Definitely, it needs further empirical analysis to explain the determinants of tax culture in a comparative analysis. Korea needs much more careful analysis to find the determinants of tax culture to explain the tax compliance behavior.

Table 9: Frequencies of positive attitude for national system between the two countries
(Units: %)

Variables	Korea	Japan
Legal system		
- much confident	8.8	15.8
- confident	49.7	63.8
National government		
- much confident	4.8	2.1
- confident	39.1	28.2
Parliament		
- much confident	3.3	1.7
- confident	27.7	23.2

Table 10: Regression results for the determinants of tax culture

Independent variables	Korea and Japan	Korea	Japan
Legal system	0.209 (0.152)	0.245 (0.314)	0.182 (0.020)
National government	-0.074 (0.662)	-0.165 (0.548)	0.079 (0.430)
Parliament	0.016 (0.918)	0.030 (0.899)	-0.058 (0.574)
Employment status (self-employed = 1)	0.372 (0.104)	0.369 (0.309)	0.374 (0.005)
Country dummy (Japan = 1)	-0.444 (0.026)	N/A	N/A
F value	2.983 (0.011)	0.537 (0.708)	3.701 (0.005)
Sample size	2,170	1,246	923

Note: Dependent variable is the response for tax cheating, where lower numbers mean more negative attitude on tax cheating. The value in parenthesis indicates the significance level.

. Conclusions

Korea and Japan have a close geographical location, and similar historical backgrounds with each other. However, Korea was evaluated to have much lower level of tax compliance than that of Japan. We analyze the determinants of tax compliance, and illustrate why they have different levels of tax compliance between Korea and Japan. We explain the tax compliance behavior by using three different factors, which are economic and noneconomic factors, and tax culture.

For the economic factors, Japan has much higher level of policies in both tax audit and penalty structures than those of Korea. We compare the disclosure policy of tax information to explain the effect of noneconomic factors with each other. Tax information about the amounts of tax evasion and taxpayers' return are completely kept back from the public in Korea. However, Japan on a regular base publishes an average amount of tax evasion after tax audit to the public, and releases the information of taxpayers' return for an extremely high income group.

Tax culture is broadly defined to include the residual factors for explaining the determinants of tax compliance. We use the World Value Survey dataset for our empirical estimates. Korea has the lower level of tax culture by measuring the attitude toward cheating taxes than that of Japan. We assume that tax culture is determined by the attitudes of taxpayers toward the government in general with three branches of the legal system, the national government, and the parliament. Our estimates are based on pooling the dataset of Korea and Japan, and show that Japan has the higher level of tax culture than that of Korea. They also show that the legal system is relatively more important factor to determine the level of tax compliance. The other organizations do not show the statistically significant results for estimates. By analyzing the same model of tax culture for each country separately, we illustrate that the legal system is influential for the determinants of tax culture in Japan, at a statistically significant

level. However, Korea has different features that all three organizations do not have effect on determination of the level of tax culture. We suggest that Korea needs more rigorous analysis to evaluate the determinants of tax culture for the study of tax compliance.

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