What Form Public Attitudes Toward Fiscal Consolidation?
Theory and Data Analysis Using JGSS-2012

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財政再建に対する国民の態度形成の諸要因の解明
—理論と JGSS-2012 を用いたデータ分析—

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With its highest general government debt to GDP ratio among G7 countries, fiscal consolidation has been a critical issue in Japan. However, in practice, the public have seemingly contradictory attitudes, where people oppose some of the major fiscal consolidation measures despite being alarmed at high government debts and deficits. This paper attempts to resolve this puzzle by modeling the formation of public attitudes toward fiscal consolidation measures based on ample prior research. This model is partly tested by using Japanese General Social Surveys (JGSS)-2012. The empirical analysis shows that one's economic situation and trust in politicians and the government appear to be influential factors affecting the support for one of the major fiscal consolidation measures, value-added tax (VAT) hike. Among the proxy variables relating to one's economic situation, subjective evaluation of one's economic situation better explains one's attitudes toward fiscal consolidation than the objective overview of one's economic situation via quantitative data. This implies that paying attention to subjective economic well-being as well as objective economic indicators can lead to better policy making toward fiscal consolidation.

Key Words: Attitude, JGSS

　G7 諸国の中で最も高い政府債務残高（対 GDP 比）を抱える日本では、財政再建は重要な政策課題である。しかし、国民は政府債務残高や財政赤字の大きさに危機感を有するものの、いくつかの主要な財政再建の方策に反対するという、一見矛盾した態度を示している。本稿は財政再建の方策に対する国民の態度形成過程を、先行研究に基づいてモデル化することでこの矛盾の解明を目指した。また、JGSS-2012 を用いたデータ分析によりモデルの妥当性を検証した。データ分析により、財政再建の主要な方策の 1 つである消費増税に対する態度形成において、経済状況と政治家・政府への信頼が重要な要因であると示された。経済状況を示す代理変数の中では、客観的な経済指標よりも主観的な経済状況の評価の方が消費増税に対する態度形成に強い影響を与えていた。これは、財政再建の方策を考える上で客観的な経済指標だけでなく主観的な経済状況の評価にも注意を払う必要性を示唆している。

キーワード：消費税、意識、JGSS

1. Introduction

1.1 History of Fiscal Consolidation in Japan

The Japanese general government gross debt has reached about 236% of its Gross Domestic product (GDP) in 2018 (International Monetary Fund, 2020). This government debt to GDP ratio is the highest among the G7 countries and fiscal consolidation has been one of the top priority issues in Japanese politics since the 1980s. However, prior research (Kato, 2003; Steinmo, 2017) has focused primarily on macro-level institutional factors and paid little attention to micro-level; how citizens understand government finances and form attitudes toward fiscal consolidation measures. They have depicted the strong opposition to fiscal consolidation measures such as VAT hike, but has not questioned why citizens respond in such manner. Therefore, this article aims to reveal how citizens become aware of, evaluate and respond to measures suggested for fiscal consolidation. This discussion is gaining importance given the surge of public debt across the globe due to the COVID-19 pandemic. Although there is emerging literature on Modern Monetary Theory (MMT) that disagrees with setting fiscal consolidation as a policy target, it is assumed in this paper that fiscal consolidation is an important policy target.

1.2 Puzzle

In understanding the mechanism of how citizens form attitudes toward fiscal consolidation measures, it is meaningful to pay attention to a puzzle in public attitudes in Japan, which is while citizens in Japan are alarmed at its government's high debts and deficits, there is persistent opposition to some of the major concrete measures for fiscal consolidation. Opinion polls indicate that the public has been highly concerned with government debts and deficits (Table 1). In all four opinion polls, those who are relatively alarmed at the government finances account for more than 80% of the respondents.

Table 1. Concerns over Government Finances as Reflected in Opinion Polls

Yomiuri Shimbun (1996)	A great deal	To some extent	Not really	Not at all
The total debt of the central and local governments are expected to reach about 440 trillion yen, which is 3.5 million yen per citizen. Have you ever felt anxious or concerned about this trend in public finance?	48.8%	37.2%	9.2%	1.9%

Asahi Shimbun(2008)	Heading toward a positive direction	Heading toward a slightly positive direction	Heading toward a slightly negative direction	Heading toward a negative direction
What do you think of the government finances?	1%	6%	37%	54%

The Mainichi (2011)	I feel anxious	I do not feel anxious
Do you feel anxious about the Japanese government's budget deficits?	92%	7%

Asahi Shimbun (2013)	A great deal	To some extent	Not really	Not at all
How anxious do you feel about the worsening public finances?	37%	47%	12%	3%

Sources: Constructed from Yomiuri Shimbun (1996), Asahi Shimbun (2008), The Mainichi (2011), Asahi Shimbun (2013)

On the other hand, there is a lack of support from the citizens toward concrete policy measures. Attitudes toward the VAT hike, the main revenue raising measure for fiscal consolidation, well represent the puzzle. Figure 1 shows the results of opinion polls conducted by Nikkei Inc. between 2014 and 2019, asking "Do you agree with raising the VAT rate to 10% as planned?" (Nikkei Inc., 2020). Excluding the last two polls, those who disagree with the hike surpass those who support it. Given that the tax hike was already politically agreed in 2012 and the public had it postponed twice, the persistent opposition is conspicuous. Furthermore, proposals to raise the co-payment ratio of medical expenditure with an intention to reduce government social security expenditure, have also faced persistent opposition (Asahi Shimbun, 1998; The Mainichi, 2003). On the other hand, optimization of medical care fees and drug prices has generally been supported by the public (Asahi Shimbun, 2005; Yomiuri Shimbun, 1999). These findings may imply that VAT hike and co-payment ratio increase face strong opposition since they directly impose burdens on citizens while optimization of medical care fees and drug prices does not directly impact citizens and instead increases burdens on specific interest groups, such as the pharmaceutical industry and medical associations.
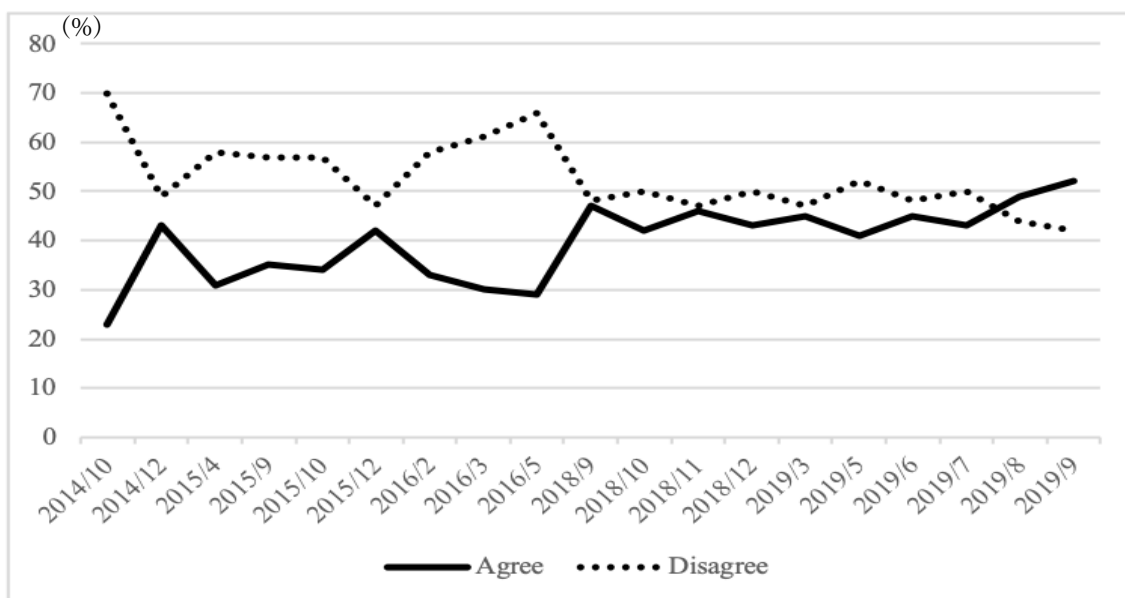

Figure 1. Attitudes toward 10% of VAT.   Source: Constructed with the data from Nikkei Inc. (2020)

Therefore, this research limits its scope to the fiscal consolidation measures that directly require the public to bear more burden and tackles why people oppose such measures despite being alarmed at the high government debts. This paper is structured as the following three sections. Based on previous research, Section 2 proposes a model on how citizens form their attitudes toward fiscal consolidation measures that increase their burden. The following section tests the model against JGSS-2012. Section 4 will further discuss the results of the empirical analysis.

2. Modeling Public Attitudes toward Fiscal Consolidation Measures
2.1 Model Overview

Aiming to bridge the seemingly contradictory public attitudes, the model (Figure 2-4) is created by the author based on the ample prior research mentioned in the subsection 2-2.
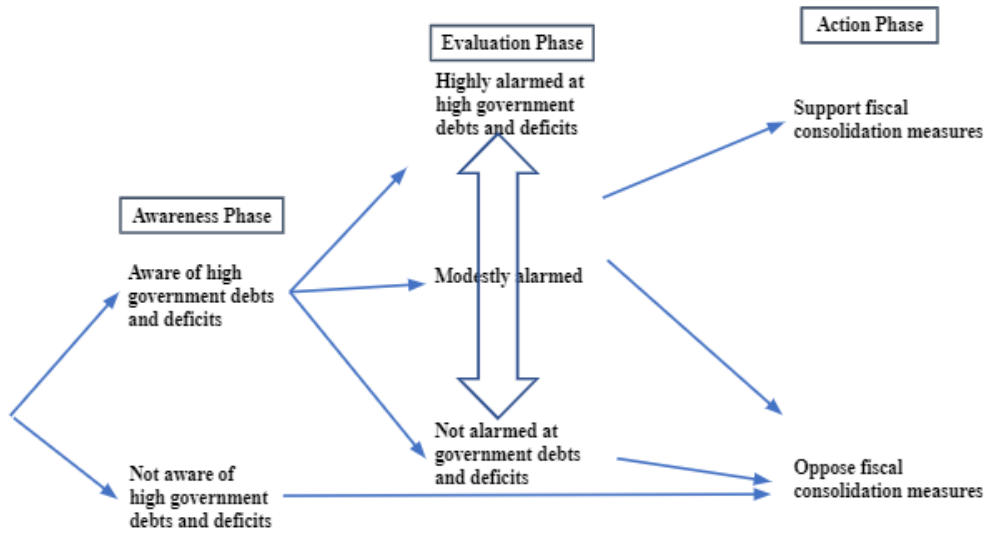
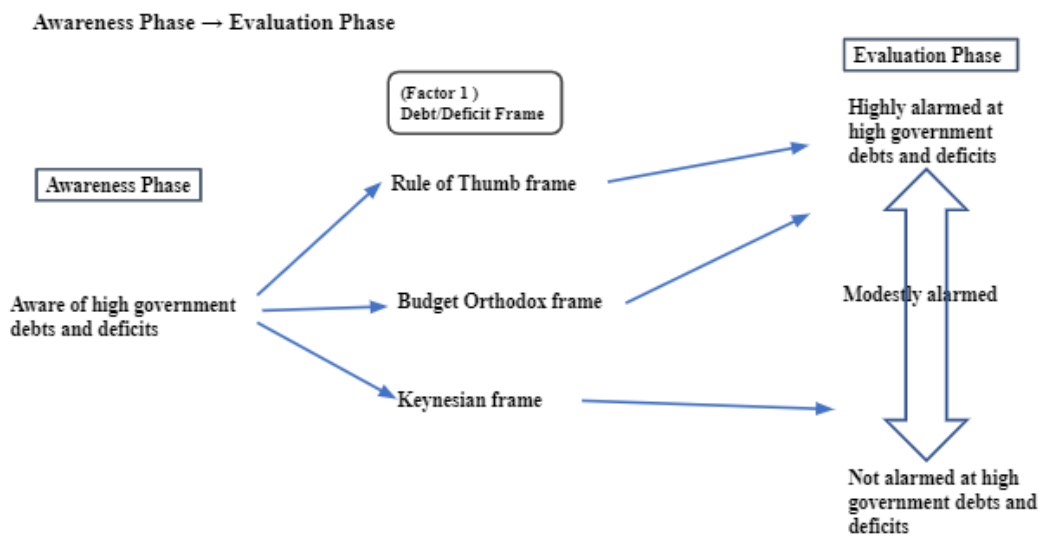**Figure 2. Three Phases of Public Attitude Formation.**

Figure 3. Process the Public Undergoes from the Awareness Phase to the Evaluation Phase.
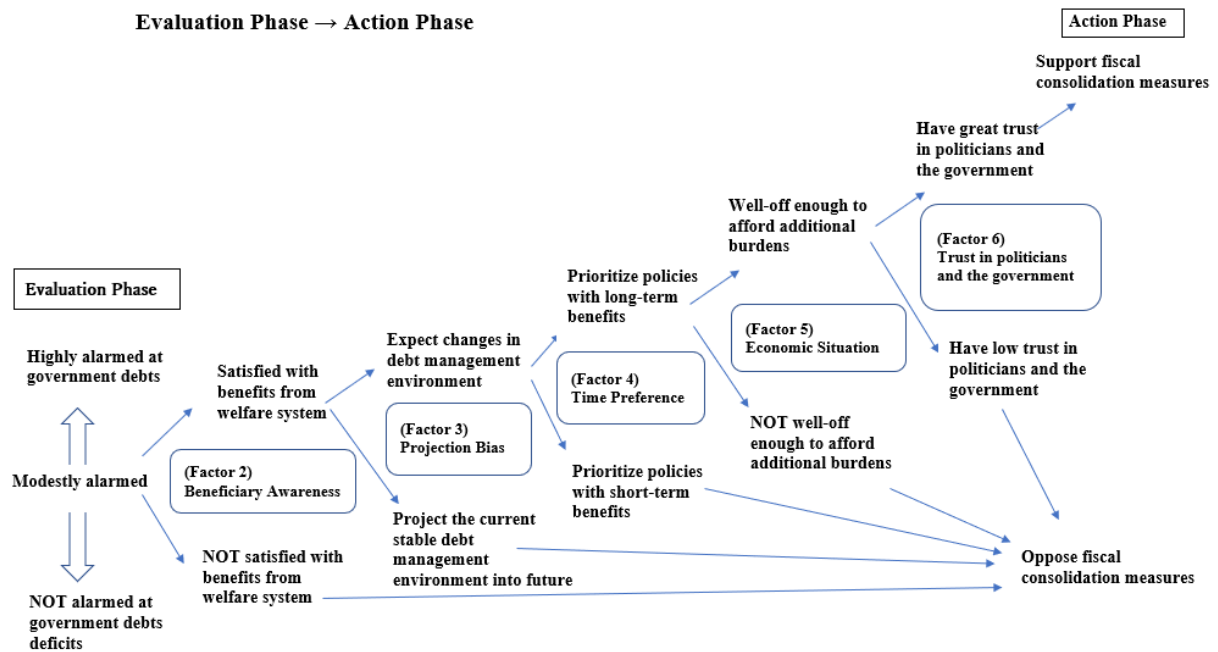
Figure 4. Process the Public Undergoes from the Evaluation Phase to the Action Phase.

As shown in Figure 2, there are three phases in the model: Awareness Phase, Evaluation Phase and Action Phase. Initially, public attitudes hinge on whether people are aware of the high Japanese government debts and deficits. Those who are aware are presumed to go through the Evaluation Phase. At the Evaluation phase, people will diverge in how alarmed they feel about the government debts and deficits. After evaluating the current debt situation, people who are highly or moderately alarmed will enter the Action Phase, where they decide whether to support or oppose fiscal consolidation measures. Those who are not aware of the high debts and deficits and those who are aware of but not alarmed will choose to oppose the fiscal consolidation measures as depicted in Figure 2.

The process from the Awareness Phase to the Evaluation Phase is illustrated in Figure 3. People who are aware of the high debts will evaluate the current situation based on the debt/deficit frames they are exposed to (Factor 1). Those who fit within the Budget Orthodox frame and the Rule of Thumb frame will be alarmed at the high government debts while those who fit within the Keynesian frame will take the deficits as investment for economic growth and will not be concerned with it.

The process from the Evaluation Phase to the Action Phase is described in Figure 4. There are five factors that determine whether those alarmed at the high government debts will support or oppose the fiscal consolidation measures. The public will first consider how this fiscal risk will impact their own life based on their beneficiary awareness (Factor 2). Those who feel they receive limited benefits from the public welfare system will not be willing to contribute to fiscal consolidation since they think the fiscal risk has limited impact on their lives. If they have high beneficiary awareness, they will be willing to bear additional burdens to sustain the system and are seen to proceed to the next stage of consideration, the projection bias they have (Factor 3). People with a strong projection bias will assume that the current stable debt servicing will continue and underestimate the existing fiscal risks. On the other hand, those with a weak projection bias will consider the possibility that the situation might go beyond the government capacity and will be inclined to take precautionary action. The decision of these

precautious people will then be influenced by another factor - time preference (Factor 4). People with higher time preference will prefer policies that will bring short-term benefits such as economic stimulus packages to fiscal consolidation with long-term benefits. Those with low time preference are more likely to support the long-term policies such as fiscal consolidation. However, this depends largely on the economic situation they are facing (Factor 5). People struggling to make ends meet tend to oppose fiscal consolidation measures that require further burdens. Those who can afford the fiscal consolidation measure will face the last factor, which is the level of trust they have in politicians and the government (Factor 6). Those who have a lack of trust in politicians and the government will be hesitant to bear additional burdens as they cannot be sure that their contribution will be used properly for fiscal consolidation. After progressing through all these five stages, people will then support the fiscal consolidation measures. Those who are distracted in any of these stages will oppose the fiscal consolidation measures.

The puzzle mentioned in the previous section is the discrepancy between the Evaluation Phase and the Action Phase. Opinion polls show that at the Evaluation Phase, most people are highly or moderately alarmed at the Japanese government debt. Despite this, other opinion polls imply that the majority oppose fiscal consolidation measures like the co-payment ratio increase and the VAT hike in the Action Phase. Although the model assumes that the flow is unidirectional from the Awareness Phase to the Action Phase, it is possible for the flow to be in the reverse direction. However, in order to simplify the model for empirical analysis, this paper will leave this aspect to future research.

2.2 Previous Research

This subsection will elaborate on the model above by highlighting the rich body of prior research.

2.2.1 The Awareness Phase

Hayo and Neumeier (2013) empirically showed that the better people know about debt-related economic measures, the greater their support for immediate public debt reduction will be. This implies that factual knowledge on the current public debt situation plays an important role in forming public attitudes toward fiscal consolidation.

2.2.2 The Process from the Awareness Phase to the Evaluation Phase

Factor 1:　Debt/Deficit Frames

Barnes and Hicks (2018) presented two media framings: Budget Orthodoxy frame and Keynesian frame. The former, often associated with European Central Bank, promotes deficit reduction by emphasizing the economic problems of other countries with large debts. The latter, endorsed by American "saltwater" economists and recently the International Monetary Fund (IMF), holds Keynesian perspectives on growth and regards deficit spending as an investment for the economy. Using the case study of the UK in the 2010s, they showed that the individual attitudes toward deficit reduction is influenced by the frames held by the newspaper one reads.

Another frame we focus on here is the Rule of Thumb frame. Stanley (2014) showed that people rely on the rule of thumb used in everyday life to evaluate public debts and deficits. Unpacking the "age of austerity (2008-2012)", his focus group interviews revealed how the middle-class rule of thumb drove people to support radical spending cuts as follows. After experiencing the global financial crisis and the resulting credit crunch, people became cautious of the financialization of their everyday life and began to understand the culturally salient rule of thumb - one lives within one's means and one pays back one's debts. This change in their mindset resonated with the Conservative criticism against the Labour

government as a profligate state relying on public debts, leading to support for large spending cuts. His findings show that the association of government finances with that of households played a significant role in determining public attitudes toward public debts.

2.2.3 The Process from the Evaluation Phase to the Action Phase

Factor 2: Beneficiary Awareness

The scholarship on universal welfare systems emphasizes the importance of beneficiary awareness in forming support for the welfare system. Beneficiary awareness, as used here, consists of the amount of benefits and the procedure.

Ide (2013) emphasizes the importance of the amount of benefits in the nominal term not the relative term to the cost. He points out that Japan's highly reported pain from tax payment can be traced back to the lack of beneficiary awareness due to low nominal benefits. While the net burden rate is the same in both Japan and most of the Nordic countries, small benefits in exchange for low taxes leave people unsatisfactory and pained from tax payments in Japan (ibid.).

Rothstein (2001) emphasizes the importance of procedural justice. He claims that one of the conditions where people support welfare system is that they can be assured of receiving the benefits of social programs "in a fair and impartial way" as promised. Compared to the selective welfare system faced with the difficulty of distinguishing "the needy", the universal system covers the entire population and is likely to deliver benefits without arbitrary selection (ibid.).

These findings imply that when one receives greater nominal benefits with procedural justice, one is likely to support the system despite high costs. Although support for the system may not directly entail support for fiscal consolidation measures, beneficiary awareness should be regarded as essential.

Factor 3: Projection Bias

According to Loewenstein, O'Donoghue and Rabin (2003), projection bias is the tendency to underappreciate the effects of changes in their states, and hence falsely project their current preferences over consumption onto their future preferences. This psychological bias has mostly been tested in consumption behavior and has been paid little attention in public policy. However, the idea is applicable to arguments on fiscal consolidation. In the context of fiscal consolidation, we can assume that the predicted future utility of debt spending is overly influenced by the current state, in which debt is stably managed with low interest rates. This implies that projection bias will cause people to underestimate the effects of possible changes in the environment surrounding the debt spending. The future state might consist of situations such as declining trust in Japanese bonds and higher interest rates leading to higher debt management costs, to make matters worse, Japan might end up in a sovereign debt crisis. Those with a strong projection bias may have an optimistic view that the government can continue to manage public debts with low interest rates and may be less willing to take additional burdens for fiscal consolidation.

Factor 4: Time Preference

Time preference is "the preference for immediate utility over delayed utility" (Frederick, Loewenstein, and O'Donoghue, 2002, p.352). Hayo and Neumeier (2013) measured respondents' quasi-hyperbolic discount function and empirically tested if quasi-hyperbolic discount function influences the support for fiscal consolidation. Quasi-hyperbolic discounting assumes that people are more impatient in the short-run; hence higher time preference in the near future while lower time preference in the distant future (ibid.). Their experiments show that lower discount rate itself and greater short-run

patience leads to a significantly higher likelihood of supporting fiscal consolidation. Therefore, time preference can be regarded as one potential factor affecting support for fiscal consolidation measures.

Factor 5: Economic Situation

It is consistent with our instincts that people will oppose paying more taxes or medical expenditure when they are struggling to make their own living. Hayo and Neumeier (2013) measured one's economic situation by three objective indicators (net monthly household income, the household's real assets, a social class indicator) and one subjective indicator (subjective assessment of one's economic situation rating from 1 to 5). Among the four indicators, subjective assessment and real assets showed a statistically significant impact on support for immediate public debt reduction while household income and social class indicators had no significant impact (ibid.). Thus, it can be understood that at least some aspects of the economic situation influence attitudes toward fiscal consolidation measures.

Factor 6: Trust in Politicians and the Government

Jacobs and Matthews (2012) theorized that the uncertainty deriving from the nature of politics, which is "the possibility that politicians tomorrow will fail to deliver on the promises made today" (ibid., p.926), can reduce support for policies with long-term benefits. They asked respondents if they support the policy brief proposing an immediate tax increase and benefit cut in the US Social Security System to accumulate resources that would sustain the system, which would otherwise run deficit in the future due to demographic changes. They manipulated the expected timing of the financial crisis to come; five years later and forty years later. They also measured political trust by three components. The combined index for political trust turned negatively correlated with the timing manipulations of five years later and forty years later, which implies that greater levels of trust dampens the differences between the short-term and long-term benefits. Their findings show that political trust is influential in forming attitudes toward a long-term policy investment such as fiscal consolidation.

To sum up the model, the puzzle presented above can be explained as the five factors in the process from the Evaluation Phase to the Action Phase which discourage those who are alarmed at government debts from supporting fiscal consolidation measures.

3. Empirical Analysis of the Model

In this section, the model presented above will be empirically tested using JGSS-2012. The dependent variable in this test is the attitudes toward the VAT hike and does not include attitudes toward other fiscal consolidation measures. This is because VAT has been a hot political agenda with rich data on opinion polls regarding public attitudes readily available while other measures have limited data available. Furthermore, given its strong revenue raising power, Kato (2003) emphasizes the importance of VAT in financing the welfare state. Thus, the study of the determinants of attitudes toward the VAT hike has significant influence on fiscal consolidation. It is technically possible for the public to oppose the VAT hike if they prefer other measures for fiscal consolidation. However, due to the data limitation, the exploration of this possibility will be left for further research.

This analysis is limited to find the correlations between the factors and the attitudes toward the VAT hike. Furthermore, some of the factors in the model cannot be tested as the dataset do not include appropriate proxy variables. However, this rich empirical data shows whether some of the factors have positive or negative correlations with attitudes toward the VAT hike, and if so, the degree of its impact. Correlations are measured by multiple regression analysis. JGSS-2012 is conducted partly with face-to-

face interviews and partly as a self-administered questionnaire. The latter has two versions: A and B. This article analyzes the 4500 samples assigned to the version A self-administered questionnaire with 2332 valid responses.

3.1 Operationalization of Variables

The dependent variable, attitudes toward the VAT hike, is represented by the answer to Q51 of the self-administered questionnaire A, asking what one thinks of the appropriate rate of consumption tax (VAT). Although the range of the six choices are not equal, the choices well represent one's attitudes toward VAT: opposition toward the VAT rate at that time (5%), support for the VAT rate at that time (5%), support for higher VAT rates. Thus, the question can be a measurement of one's attitudes toward the VAT hike, a measure for fiscal consolidation. Although the VAT hike has been suggested in association with fiscal consolidation, there is a possibility that some respondents are not aware of this context and do not regard it as a measure for fiscal consolidation. However, given the data limitations, it is assumed that respondents regard higher VAT rates as a fiscal consolidation measure.

Among the five factors in work from the Evaluation Phase to the Action Phase, economic situation (Factor 5) and trust in politicians and the government (Factor 6) can be tested using JGSS-2012. Economic situation (Factor 5) has three variables: the answer to Q46_1 of face-to-face interview and the answers to Q28 and Q34 of self-administered questionnaire A. Q46_1 measures one's objective economic situation by asking about their annual household income. Q28 measures the subjective assessment of one's relative household income among Japanese families. Q34 represents the subjective prediction of one's future economic situation in the future. The proxy variable of trust in politicians and the government (Factor 6) consists of the answers to Q66_D and Q66_K from the self-administered questionnaire A. When analyzed together, these two questions can reveal the trust one has in politicians and the government. Table 2 gives a more detailed overview of the proxy variables. Furthermore, control variables describing the demography of the respondents - gender, age and education - are included.

Table 2. The Operationalization of Variables in JGSS-2012

Dependent Variable	Proxy Variable	Details of Proxy variable
Attitudes toward the VAT hike (Attitudes toward Fiscal Consolidation Measures)	Answer to Q51 of self-administered questionnaire A	What do you think is the appropriate rate for consumption tax? (OPCNSMTX) (1) 0%, (2) 1-4%, (3) 5% (current VAT rate), (4) 6-9%, (5)10-14%, (6)15% or more

Independent Variables	Proxy Variables	Details of Proxy variables
Economic Situation (Objective/Current) (Factor 5)	Answer to Q46_1 of face-to-face interview	Which one of the following best describes your annual household income last year? Please answer the income before deducting taxes. Include income not only from your jobs, but also from all other sources such as stock shares, pensions, and real estate. (SZHSINCM) (1) 0 yen - 2.5 million yen (2) 2.5 million yen - 4.5 million yen (3) 4.5 million yen - 6.5 million yen (4) 6.5 million yen - 8.5 million yen (5) 8.5 million yen - 10 million yen (6) 10 million yen - 12 million yen (7) 12 million yen - 14 million yen (8) 14 million yen - 16 million yen (9) 16 million yen - 18.5 million yen (10) 18.5 million yen or over
Economic Situation (Subjective/Current) (Factor 5)	Answer to Q28 of self-administered questionnaire A	In comparison to most Japanese families in general, how would you rate your family's economic situation? (OP5FFINX) 1.Far below average, 2.Below average, 3.Average, 4.Above average, 5.Far above average
Economic Situation (Subjective/Future) (Factor 5)	Answer to Q34 of self-administered questionnaire A	Do you feel anxious about your economic situation in the future?(AXECNSF) 1.I feel very anxious, 2.I feel somewhat anxious, 3.I have mixed feelings, 4. I don't feel anxious very much, 5.I don't feel anxious at all
Trust in Politicians and the Government (Factor 6)	Average answer to Q66_D and Q66_K of self-administered questionnaire A	How much do you trust the following people? (TR3BCRAZ, TR3CGMNZ) D: Bureaucrats of Central Government K: Congressman 1.A great deal, 2.To some extent, 3.Not at all, 4. Don't know

Control variables	Proxy Variables	Details of Proxy variables
Gender	Answer to SEXA of face sheet of face-to-face ineterview	(SEXA) 0.Male 1.Female
Age	Answer to AGEB of face sheet of face-to-face ineterview	(AGEB) in real number
Education	Answer to Q53 of face-to-face interview	What is the last school you attended (or are attending now)? Consider dropout as "graduated" (XXLSTSCH) 1.Elementary school and its equivalence (Ordinary elementary school in the old system, including national elementary school) 2.Junior high school and its equivalence (Higher elementary school in the old system) 3.High school and its equivalence (Junior high school/ Girls' high school in the old system) 4.College of technology and its equivalence (Vocational school/ Commerce school in the old system) 5.2-year college and its equivalence (Normal school in the old system, Higher school or vocational school in the old system/ higher normal school) 6.University (University/ Grauate school in the old system) 7.Graduate school

Note: Re-coding is done for Q46_1 and Q53 of face-to-face interviews, and Q66_D and Q66_K of the self-administered questionnaire A[1] .Gender is given dummy variables.

3.2 Results

Multiple regression analysis examines the correlations between the dependent variable and the independent variables. Although most of the proxy variables here are ordinal scales and not ratio scales appropriate for multiple regression analysis, we can use the ordinal scales as an alternative. Gender and education, which are categorical variables, are coded with dummy variables. The only ratio scale data, which is age, is analyzed in the original form.

The proxy variables for economic situation (objective/current) and trust in politicians and the government in JGSS-2012 have many missing values and listwise deletion of cases will significantly reduce the sample size. Therefore, in this case, the missing cases are given the average value of the valid answers. This treatment is conducted for "No answer" response of all variables tested, "Don't know" response of economic situation (objective/current), trust in politicians and the government and education, as well as "Don't want to state the income" response to their economic situation (objective/current). Table 3 gives a summary of all variables and Table 4 is the correlation matrix of independent variables. The multicollinearity test is negative for all pairs of the independent variables since the VIFs calculated from the coefficients in Table 4 are less than 10.

Table 3. Summary of Variables in JGSS-2012

	Observations	Mean	Std. Dev.	Min	Max
Attitudes toward the VAT hike (Attitudes toward Fiscal Consolidation Measures)	2332	3.446	1.102	1	6
Economic Situation (Objective/Current) (Factor 5)	2332	3.020	1.561	1	10
Economic Situation (Subjective/Current) (Factor 5)	2332	2.646	0.907	1	5
Economic Situation (Subjective/Future) (Factor 5)	2332	2.229	1.019	1	5
Trust in Politicians and the Government (Factor 6)	2332	1.483	0.387	1	3
Gender	2332	0.545	0.498	0	1
Age	2332	53.549	16.994	20	89
Education	2332	3.782	1.494	1	7

Note: The statistics above are calculated after the treatment to substitute missing values with average values.

Table 4. Correlation Matrix of Independent Variables in JGSS-2012

	Economic Situation (Objective/Current)	Economic Situation (Subjective/Current)	Economic Situation (Subjective/Future)	Trust in Politicians and the Government	Gender	Age
Economic Situation (Subjective/Current) (Factor 5)	0.456					
Economic Situation (Subjective/Future) (Factor 5)	0.136	0.372				
Trust in Politicians and the Government (Factor 6)	0.034	0.086	0.142			
Gender	-0.067	-0.012	-0.012	0.054		
Age	-0.129	-0.094	0.117	0.121	-0.001	
Education	0.242	0.256	0.082	-0.013	-0.129	-0.405

Note: The numbers in this table are rounded off to three decimal places.

Table 5 shows the results of the multiple regression analysis. Correlations are statistically significant for all the independent variables at 1% level except for trust in politicians and the government at 5% level. Coefficients appear to support the model in general. Those who have a higher household income tend to support the VAT hike. As one subjectively feels relatively better off among Japanese families and has less economic anxiety in the future, one is more likely to support raising the VAT rate. Those who have greater trust in politicians and the government are generally more supportive of the VAT hike. As for demographic factors, men support the VAT hike more than women in general. Older citizens and those with higher education tend to have more support for the VAT hike. Based on R-squared, the fit of the regression model is about 7%. Listwise deletion pattern yields similar results where R-squared is about 8%, and the positive and negative direction of all the coefficients are the same while significance levels differ for some variables.[2] Economic situation (subjective/current) is the most impactful factor, followed by economic situation (subjective/future), economic situation (objective/current), and trust in politicians and the government in order.

Table 5. Determinants of the Attitudes toward the VAT hike in JGSS-2012

Independent Variables	β	Std. Error (β)
Economic Situation (Objective / Current) (Factor 5)	0.065***	0.023
Economic Situation (Subjective / Current) (Factor 5)	0.082***	0.024
Economic Situation (Subjective / Future) (Factor 5)	0.076***	0.022
Trust in Politicians and the Government (Factor 6)	0.040**	0.020
Gender	-0.120***	0.020
Age	0.108***	0.021
Education	0.121***	0.023
Observations	2332	
R-squared	0.076	

Note: *, **, and *** denote significance at 10, 5, 1% level respectively. Tests are run with Excel 16.16. 27. Due to the technical limitation in analyzing with Excel 16.16. 27, standardization contains errors of the constant deviating from zero by about 0.003.

In order to precisely figure out what factors caused the puzzle, it is necessary to carry out multiple regression analysis, limiting samples to those who are highly or moderately alarmed at government debts, which we will leave for future research.

3. Discussion

Among the empirical findings, those relating to one's economic situation have significant implications. The subjective assessment of one's relative household income among Japanese families appeared the most impactful, followed by the subjective prediction of one's future economic situation and annual household income in order. This implies that the subjective evaluation of one's economic situation better explains one's attitudes toward VAT hike than the objective overview of one's economic

situation via quantitative data. Furthermore, the objective overview of one's economic situation and the subjective evaluation of economic situation do not align well, with the correlation between annual household income and subjective assessment of one's relative household income among Japanese families at around 0.4 and between annual household income and the subjective prediction of one's future economic situation in the future at about 0.1.

Prior research also agrees that there is no perfect correspondence between objective and subjective measures of one's economic situation (Santarelli, 2013; Hayo and Seifer, 2003). This gap is important in policy making as policy interventions might fail in improving subjective economic situations despite improving objective economic indicators (Santarelli, 2013). Therefore, when the government aims to form support for VAT hike, they need to consider the subjective evaluation of one's economic situation as well as objective indicators. Furthermore, since objective and subjective economic measures do not perfectly align, there is a possibility to improve subjective assessment of one's economic situation without increasing the quantitative amount of economic welfare such as income. However, it is necessary to make sure that such policy intervention in the subjective field does not result in information manipulation, and objective welfare improvement should also be a policy target.

There are some important aspects that this paper leaves for future research. Exploring the determinants of public attitudes toward raising co-payment ratio of medical expenditure, another fiscal consolidation measure that impose direct burdens on citizens, may provide further implications. In addition, empirical analysis including debt/deficit frame, beneficiary awareness, projection bias and time preference will lead to better understanding on the public attitude formation.

[Notes]

(1) In Q46_1 of face-to-face interview, the range of answer choice is significantly different between lower income layers and higher income layers. Thus, re-coding aims to limit the range to between 1.5 million and 2.5 million yen. Q66_D and Q66_K of self-administered questionnaire A are changed from descending order to ascending order: from (1.A great deal - 3.Not at all) to (1.Not at all - 3.A great deal). Q53 of face-to-face interview is re-coded to combine old and current school systems.

(2) The significance level of economic situation (objective/current) at 5%, economic situation

(subjective/current) at 10%, economic situation (objective/future) at 5%, and trust in politicians and the government at 10%. The significance levels for other variables are the same.

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