



AHP Analysis on the Determinants of Tax Compliance in Azerbaijan*

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Understanding the drivers of tax compliance is crucial to enhancing the effectiveness of the tax system and implementing successful fiscal policies in emerging economies, such as Azerbaijan. With its resource-dependent and transitional economy undergoing dynamic change, Azerbaijan presents a unique scenario to study the determinants of tax compliance. This study aims to identify key factors that either encourage or inhibit taxpayers' adherence to tax obligations, utilizing the Analytical Hierarchy Process and focusing primary data to address existing research gaps in this area.

The study highlights the significant influence of noncompliance opportunities and trust in the government on tax compliance, emphasizing the necessity of considering these aspects when formulating future tax policies. By closely examining the specific factors that influence tax compliance in Azerbaijan, this study provides critical insights for policymakers, international bodies, tax administrators, and researchers interested in tax compliance behavior in not only post-Soviet states but also developing economies.

[Key Words: Tax compliance, Analytical Hierarchy Process, economic factors, tax morale, legal and institutional factors, non-compliance factors]

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I . INTRODUCTION

Tax compliance can play a decisive role in fiscal stability and economic health through affecting resource allocation, public service delivery, and ultimately, their overall trajectory of development in terms of revenue mobilization. In the context of developing countries, this becomes even more pronounced. Many developing countries, where mostly foreign loans and natural resources are essential sources of the state budget, have shifted their taxation strategies to lessen this reliance (Marandu et al., 2015).

This study focuses on determinants of tax compliance in Azerbaijan, which has undergone significant economic and institutional transformations over the past few decades. All means of production controlled by the government during the Soviet era experienced the shift to a market-based economy, and the significant shift not only added a new layer of financial responsibility for individuals and businesses but also necessitated an understanding and acceptance of the role of taxes in a market economy. Studying tax compliance in a transitioning economy can provide an understanding of how these changes affect tax behavior and the challenges associated with reforming tax systems. The series of features in Azerbaijan has experienced densely helps in understanding what kind of elements we should consider for improving tax compliance in not only the Commonwealth of Independent States but also other countries with unstable tax system.

Unfortunately, there is no available data that directly indicates the tax compliance level in Azerbaijan, but tax compliance is indirectly assumed as the shadow economy, and this assumption is a significant factor in measuring tax evasion (Fuest & Riedel, 2009). In Azerbaijan, 31 percent of the economy operates underground and does not pay any taxes to the government (Guliyev 2019).

To fill an important gap in the literature, this study aims to explore ways to

increase the tax compliance level through an Analytical Hierarchy Process (hereafter AHP) analysis based on a survey collected from 181 tax officers and payers in September 2022. By closely examining the specific factors that influence tax compliance in Azerbaijan, we aim to contribute to the development of more effective tax policies and reforms that can enhance voluntary compliance, bolster government revenue, and aid in the sustainable economic development of the country.

The study begins by examining the key variables related to tax compliance behavior in Azerbaijan. After designing the AHP methodology in the second part, the paper analyzes the result of the employment of the AHP method with the recommendations. The final section discusses the contribution of the research as well as some challenges encountered during the study.

II. LITERATURE REVIEW

Tax compliance has been extensively studied since the mid-20th century. Allingham and Sandmo (1972) approached tax compliance as intentional underreporting. Jackson and Milliron (2002) saw tax compliance as a voluntary act of paying taxes fully, precisely, and timely. McBarnet (2003) differentiated three types of tax compliance: committed, capitulative, and creative. Meanwhile, Kirchler and Wahl (2010) considered tax avoidance and evasion as forms of non-compliance. This study aligns with McBarnet (2003) and Kirchler and Wahl (2010), defining tax compliance as actions—voluntary or enforced—to duly and fully pay taxes without legal or illegal reductions.

1. Economic Factors

This study classifies four main variables—economic factors, tax morale,

legal and institutional factors, and non-tax compliance opportunity—and 12 sub-variables that might affect tax compliance behavior in Azerbaijan.

Economic factors largely influence taxpayers' behavior. The economic analysis of illegal behavior originates from Becker's (1968) work, which inspired economic models in tax compliance research. Borrowing words from Becker (1968), "some persons become "criminals," therefore, not because their basic motivation differs from that of other persons, but because their benefits and costs differ." Establishing the deterrence or economic model of tax compliance based on Becker's (1968) model, Allingham and Sandmo (1972), highlighted three factors of tax compliance as tax rate, likelihood of detection, and penalty.

1) Tax Rate

Tax rate holds a complicated relationship with tax compliance. Theoretically, increasing tax rates might either decrease compliance (Allingham & Sandmo, 1972) or increase it (Yitzhaki, 1974). Most empirical research provided opposite evidence of Yitzhaki's (1974) dilemma.

Several research (Clotfelter, 1983; Ali et al. 2001) found that marginal tax rate has affirmative impact on non-tax compliance. IMF research revealed that Russia's shift to a flat tax rate increased tax revenue (Takáts & Papp, 2008). In Azerbaijan, a reduction in the corporate tax rate also led to increase in tax revenues (Suleymanov & Bayramova, 2014).

2) Likelihood of Detection

The economic deterrence model emphasizes the pivotal role of the likelihood of detection in shaping taxpayers' compliance decisions. This probability of detection risk, also known as tax audit, resource allocation, or perception in influencing taxpayers' behavior. Becker (1968) raised the

question of how appropriate resource allocation (hence a higher probability of crime detection) leads to decreased criminal behavior. Allingham and Sandmo (1972) and Srinivasan (1973) supported this view, indicating that taxpayers comply with their obligations under the fear of detection. Similarly, Modugu and Anyaduba (2014) have also established a significant correlation between the likelihood of detection and tax compliance. In the context of Azerbaijan, Bulut and Suleymanov (2015) emphasized that the frequency and quality of tax audits are focal in combating the shadow economy and increasing tax revenue in Azerbaijan.

Changes to Articles 49, 83.3 and 85.5 of the Tax Code of the Republic of Azerbaijan (RA) which state the extension of time limits on tax investigation and allow tax officers to re-investigate the tax period which has already been audited, tend to increase likelihood of the detection.

3) Penalty

The detection has a significant deterrence effect on noncompliance behavior if taxpayers are punished for wrongdoing. The tax penalty is the next level of the detection of non-compliance. Becker (1968) explains offense as a social loss, a punishment that minimizes this loss. Allingham and Sandmo (1972) defined that penalty rate and probability of detection have an unambiguous impact on tax compliance. Before “tax gambling,” a taxpayer assesses the consequences of being caught and the costs to be paid. If the penalty rate is high and in case of being caught, the final payment will be less than the expected utility, taxpayers act less risk-averse and tend to comply with taxes.

With their empirical research, Park and Hyun (2003) have revealed that a high penalty rate more significantly induces tax compliance than the probability of detection in (South) Korea. In Azerbaijan, policy changes

regarding an increase in the amount of tax penalties highlight the importance of this variable for this research as well.

2. Tax Morale

The concept of tax morale challenges the belief that economic factors alone determine tax compliance, proposing intrinsic motivation as a key factor (Torgler, 2003). As an answer to “why some taxpayers pay taxes,” tax morale applies social-psychological or sociological lenses, identifying the voluntary intention to follow tax laws (O’shaughnessy, 2014).

Torgler has explored tax morale across different regions from the Philippines (Torgler, 2004), Turkey, Mexico (Torgler, 2005b), the U.S., Austrian, and Swiss taxpayers following suit (Alm & Torgler, 2006). Aliyev (2019) also emphasized that increasing tax morale is a significant phenomenon in combating tax evasion in Azerbaijan. Given these considerations, tax morale is expected to substantially influence tax compliance in Azerbaijan and based on the literature review three sub-criteria of tax morale—fairness and equity, trust in the government and trust in the judiciary—have been identified.

1) Fairness and Equity

The perception of fairness is positively correlated with tax compliance (Marandu et al., 2015). Jimenez and Iyer (2016) also concluded that the perception of fairness mediates trust in tax compliance. Aliyev (2019) identified fairness as the main factor influencing tax compliance in Azerbaijan. Bobek (1997) classified fairness with three—distributive, procedural, and policy fairness. These fairness covers the perception of taxpayers about their particular tax burden compared to others’, the

procedures to receive an equitable outcome (Requoted from Thibaut & Walker 1975 in Hartner et al., 2008), and maintaining trust (Kołodziej & Niesiołowska, 2017) for tax morale.

Fairness can also be described as a perceived bond between the taxpayer and the government (O’Shaughnessy, 2014). If taxpayers believe the system is unfair, unjust, or illegitimate, they will not abide by the tax laws (Alm et al., 1992). Among tax researchers, equity, which provides an economic explanation of fairness that goes beyond social and psychological theory to explain taxpayers’ behavior (Bobek, 1997), is commonly identified as the primary theoretical basis for judging tax fairness.

2) Trust

A relational or psychological contract (Torgler, 2004) has a reciprocal effect, taxpayers declare their real income in case they get quality public goods from the government. Trust in tax compliance, being broad-spectrum, is related to taxpayers’ evaluation of public expenditure and a fair system. In a similar context, “trust in government” is related to how the taxes collected by the government are spent, and it is questioned by taxpayers if they don’t receive proper public goods and services (Guzel et al., 2019).

Torgler (2004) also empirically analyzed trust among Asian countries, transition economies (2003), and the United States and European countries (Alm & Torgler, 2006), identifying trust as Trust in Legal System and Trust in Parliament and came to the conclusion that trustworthiness is the main factor on building tax compliance. Following Torgler’s (2004) categorization, the paper will analyze “trust in the government” and “trust in the judiciary”.

3. Legal and Institutional Factors

Gasimov (2018) identified that legal and institutional factors are critical factors of tax compliance in Azerbaijan through the empirical analysis of the Business Environment and Enterprise Performance Survey data from the World Bank. He identified tax administration, illegal payments (informality and corruption), and judicial obstacles as legal and institutional factors. This study also considers not only a political and economic system but also public infrastructure as legal and institutional factors. Direct democracy (Torgler, 2005a), high quality of service (Khamis & Mastor, 2021), and tax administration have been described as institutional factors that drive tax morale. This paper analyzes the complexity of tax law, transition economy, and quality administration as subcategories of the factor.

1) Complexity of Tax Law

Tax complexity refers to the challenges of understanding, and implications arising from the feature of the tax system (Global MNC, 2020). According to the Global Multinational Corporations' Tax Complexity survey conducted in 2020, tax complexity increased in the last two years in 58 countries out of 110. Tax legislation is frequently changed to respond to ongoing developments worldwide. Milliron (1985) found out that tax complexity affects filing by influencing equity perception and the opportunity to evade taxes.

Saad (2014) investigated tax knowledge level, the perceived complexity of tax knowledge, and the underlying reason for non-tax compliance and he found that there are partial relations between non-compliance and the complexity of taxation in New Zealand. The relevant authorities should reduce the volume of laws and procedures related to taxation.

2) Transition Economy

Transitional economy in post-Soviet countries were newly stepping into tax issues. Under the communist regime, people were getting access to goods and services through their informal connections (Van Ees & Bachmann, 2003), companies were owned by the states and taxes shaped only a small amount of the budget revenue (Preobragenskaya & McGee, 2003). At the beginning of the transition, most post-soviet countries were exposed to the high level of the black economy, which is one of the indicators of tax evasion because people were not used to paying taxes (Torgler, 2003). In Azerbaijan, shadow economy between 1990 and 1993 was the highest from 43.8 percent to 45.1 percent of GDP (Torgler, 2003).

Being a transitional economy is a broad variable influenced by several factors such as bribery, trust, anarchy, poor governance, etc. Payne and Saunoris (2020) examined how bribery affected tax evasion in transition economies. Alon and Hageman (2013) found that tax compliance was low, and the unofficial payments and particularized trust were quite high companies in transition economies in the former area of the Soviet Union.

3) Quality of Tax Administration (Service)

Tax administration and its quality play a significant role in increasing tax yields in a country. Ajaz and Ahmad (2010) state that while quality and effective administration, public stability, and accountability have a beneficial impact, corruption has vice versa effect on tax returns in developing countries. Here, better administration may focus not on how to collect taxes but on how to raise tax revenues. Good tax service and administration relates to taxpayers' convenience (Fadzilah et al., 2017). Bird and de Jantscher (1992) classified simplicity, strategy, and commitment as main components of good tax administration.

4. Non-tax Compliance Opportunities

One category of the determinants in Fischer's model, which affect taxpayers' tax compliance behavior, is labeled as noncompliance opportunity. To put simply, the category indicates the opportunities for taxpayers to evade taxes and assumed that it is reflected in the financial self-interest model (Fischer et al., 1992).

Governments often know of tax evasion opportunities but might overlook them due to high investigation costs, vast taxpayer numbers, or a tacit acceptance of the evasion. For instance, O'shaughnessy (2014) notes that certain sectors, especially agriculture and self-trade, have notably low tax compliance, indicating a higher likelihood of evasion. In this study business size, tax knowledge and tax compliance cost are identified as the sub-categories of the variable.

1) Business Size

Business size refers to income level. Theoretically, the variable indicates that more income is less tax compliance (O'shaughnessy, 2014). However, empirical research results on the matter are mixed. While Jackson and Milliron (2002) assert that middle-income taxpayers are more compliant, high and lower-income taxpayers are tax evaders, but Aliyev (2019) argued that low-income taxpayers have a significant impact on the gender factor to comply with taxes. Vasile and Croitoru (2015) identified that the volume of tax evasion relies on the interests of taxpayers and is larger for small-sized taxpayers.

2) Tax Knowledge

This variable can be understood in two ways: tax knowledge to comply with taxes and specific tax knowledge to avoid taxes. In the context of the former, tax knowledge covers basic and fundamental knowledge of taxpayers about tax legislation to comply taxes voluntarily. However, this paper talks about the opportunities allowing taxpayers to evade taxes. Knowledgeable taxpayers use some loopholes or gaps which lead to bypassing tax obligations without violation of the rules, as a privilege and draw aggressive tax avoidance schemes to reduce or totally eliminate their tax burden (Jackson & Milliron, 2002).

3) Tax Compliance Cost

Tax compliance cost is the expenses and time allocated by taxpayers to comply with tax obligations set under tax legislation (Eragbhe & Modugu, 2014). Individual taxpayers are not willing to hire tax agents to comply with taxes since it is a waste of money for them (Trivedi et al., 2004, quoted in Ghani et al., 2020). Maseko (2014) investigated that the burden of tax compliance cost must negatively do with tax compliance.

This variable is related to the policy changes in Azerbaijan which cause an increase in tax compliance costs of taxpayers. According to the amendment on May 4th, 2018, to the Law of the RA on “Accounting”, all entrepreneurs (excluding micro-sized ones) must hire a professional accountant for accounting services.¹⁾

1) <https://e-qanun.az/framework/39069>

III. RESEARCH METHODOLOGY

1. The AHP Method

The Analytical Hierarchy Process (AHP) method developed by Saaty is a decision-making technique that allows to analyze a complex problem by decomposing it into a hierarchy of more manageable sub-problems. When making an optimal decision is not easy unless the precise comparison of criteria and alternatives of the challenges, the AHP methodology can be considered one of the most useful methods to reach this goal by evaluating and comparing the alternatives and transferring them from intangible to tangible format (Harker & Vargas, 1987). The pairwise assessment of choices and criteria offers a consistent and systematic approach to data analysis, enhancing the reliability and validity of the research findings. The methodology is useful in multicriteria decision-making used in politics, economics, and engineering (Leal, 2020)

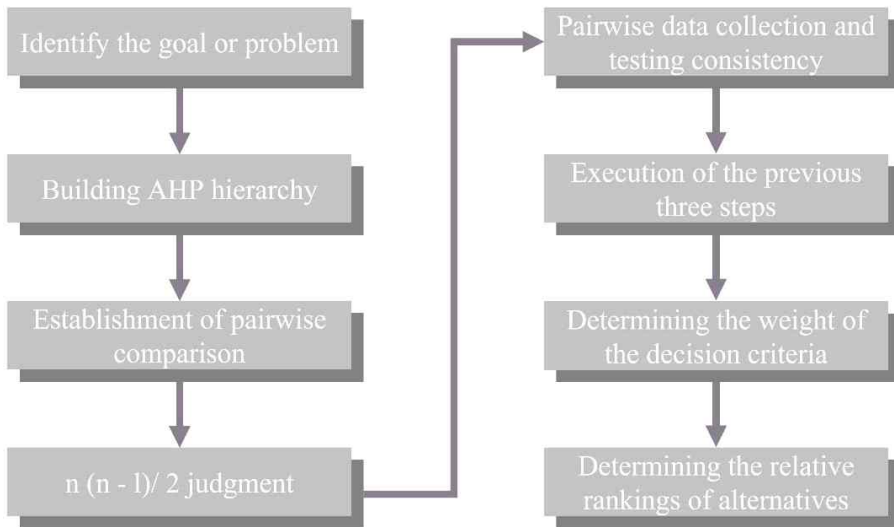
Tax compliance is also affected by various determinants such as economic, social, demographic, and institutional factors. AHP is suitable for elaborating on the multifaceted complexity of tax compliance in Azerbaijan. The application of AHP in this research will enable policymakers to concentrate their efforts on these pivotal factors, tailor their policies accordingly, and expedite the realization of their defined objectives.

2. The Research Design

The AHP method uses a three-tiered hierarchy: the first level is composed of the main problem, the second level constitutes criteria, and the third level is the alternatives of each criterion (Saaty, 1983; 1985). The initial two steps (Figure 1) of the AHP methodology cover setting the problem and building the

AHP tree by identifying criteria and sub-criteria (alternatives), respectively. These steps are followed by establishing pairwise comparisons, which allow us to weigh whether the sub-criterion is more or less important than another and identify their rankings in the AHP tree. To make the comparisons, the methodology uses a 1-9 scale of importance.

〈Figure 1〉 The AHP Method Steps



Source: Saaty (1983)

Step Three is required to be judged $n(n-1)/2$ to proceed with the set of matrices. Step Four covers the collection of the data and checking the consistency test (Figure 1). The most essential requirement of the AHP methodology is being consistent in the responses and therefore the methodology requires expert evaluation.

As it is a pairwise evaluation, respondents are asked to evaluate how important the right side is relative to the left side. Below 10 percent in pairwise evaluation is considered consistent, while the ratio less than 20 percent is also perceived tolerable when considering the complexity of the

pairwise comparisons and the lack of awareness of the respondents about the method (Wedley, 1993). The consistency ratio is calculated through the consistency index and Ratio index. The consistency index, of which the formula is provided below, is calculated by using eigenvalue λ_{\max} and n :

$$\text{Consistency Index} = \frac{\lambda_{\max} - n}{n - 1}$$

After calculating the consistency index, consistency ratio is found with the following formula by using the Ratio Index which is provided in Table 1.

$$\text{Consistency ratio} = \frac{\text{Consistency Index}}{\text{Random Index}}$$

〈Table 1〉 Random Index

n	3	4	5	6	7	8	9	10
Random Index	0.52	0.9	1.12	1.24	1.32	1.41	1.45	1.49

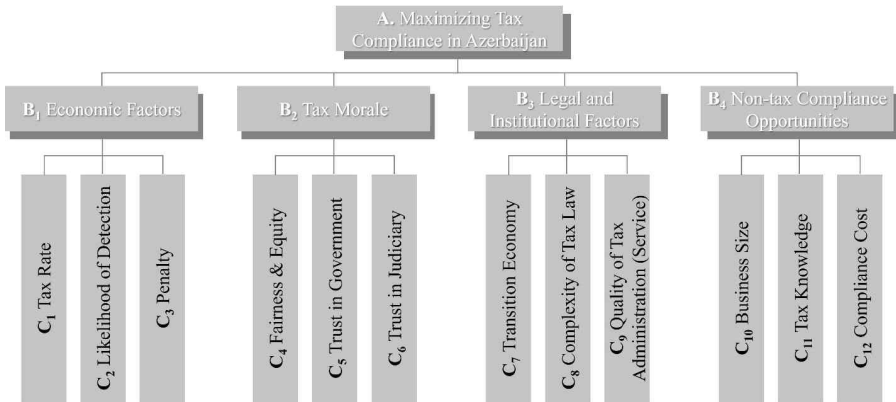
Source: Pizzinato and Kim (2020)

Step Six includes the execution of the previous three steps. It is followed by finding the local and global weights of the criteria and sub-criteria to make the final decision. The weight of criteria and local weight of the sub-criteria has been calculated from the aggregated results. The global weight is obtained by multiplying the local weight to the relevant criteria weight.

This study pays attention to the main determinants of taxpayers' behavior to comply with taxes in Azerbaijan in order to "maximize tax compliance in Azerbaijan", which is labeled as A (Figure 2). Four primary criteria have been discovered through a thorough literature analysis that is thought significantly influence tax compliance behavior in Azerbaijan, as "economic factors", "tax

morale”, “legal and institutional factors” and “non-tax compliance opportunities” (labeled as B₁, B₂, B₃, and B₄).

⟨Figure 2⟩ AHP Tree of Tax Compliance Factors in Azerbaijan



Three alternatives for each criterion are labeled under ‘C’. C₁, C₂, and C₃ represent alternatives for the ‘economic factors’ criterion, specified as “tax rate”, “likelihood of detection”, and “penalty”. C₄, C₅, and C₆ in the AHP tree represent the alternatives for “tax morale”, which are “fairness and equity”, “trust in government”, and “trust in judiciary”. C₇, C₈, and C₉ represent the alternatives for “legal and institutional factors”, which are named “transition economy”, “complexity of tax law”, and the “quality of tax administration”. Lastly, “business size”, “tax knowledge”, and “compliance cost” as C₁₀, C₁₁, and C₁₂, are subject to the non-tax compliance opportunities.

3. Data Collection

The survey is structured into two sections. The initial section aims to gather general information about the respondent’s taxation background, mainly to verify the respondents’ eligibility to participate in the survey. The

second section follows the AHP methodology and includes pairwise comparisons. Respondents were asked to compare the attributes using a scale of 1-9, a method recommended by Saaty (1983) for its proven effectiveness.

Since the AHP methodology requires expert decision-making and reliable data, the study specifically targeted tax professionals. A survey conducted from September 11th to 30th, 2022 targeted both tax officers and taxpayers in Azerbaijan. Taxpayers offer insights into the practical challenges of fulfilling tax duties, while tax officers provide a view on its oversight and enforcement. Including both groups ensures a holistic understanding of Azerbaijan's taxation landscape.

The survey, translated into Azerbaijani, was distributed to tax officers through the Automated Tax Information System, a central electronic system where all tax-related information is shared. All tax officers received the survey, but only responses from those with more than three years of experience were deemed acceptable and used for the research.

Taxpayers were individually contacted and invited to participate in the survey. Out of the 218 total participants, 37 responses were blank due to technical issues and were excluded. Tax officers were 103 (54.8 percent of the responses), while 78 were taxpayers (42.9 percent). Most respondents were professionals with more than six years of experience in the field.

4. Research Hypothesis

While this research's survey employed a pairwise assessment, the formulation of the hypothesis was primarily based on four main criteria and 12 sub-criteria, identified through comprehensive literature analysis. The following are the hypothesis made.

Economic Factors

H1: The primary drivers of tax compliance behavior among taxpayers in Azerbaijan are economic factors.

H1.1. In Azerbaijan, among economic factors and all sub-criteria, the tax rate is the primary determinant of taxpayers' tax compliance behavior.

H1.2. In Azerbaijan, among economic factors and all sub-criteria, the likelihood of detection is the primary determinant of taxpayers' tax compliance behavior.

H1.3. In Azerbaijan, among economic factors and all sub-criteria, the penalty is the primary determinant of taxpayers' tax compliance behavior.

Tax Morale

H2: The primary drivers of tax compliance behavior among taxpayers in Azerbaijan are tax morale.

H2.1. In Azerbaijan, among tax morale factors and all sub-criteria, the perception of fairness and equity is the primary determinant of taxpayers' tax compliance.

H2.2. In Azerbaijan, among tax morale factors and all sub-criteria, trust in the government is the primary determinant of taxpayers' tax compliance.

H2.3. In Azerbaijan, among tax morale factors and all sub-criteria, trust in the judiciary system is the primary determinant of taxpayers' tax compliance.

Legal and Institutional Factors

H3: The primary drivers of tax compliance behavior among taxpayers in Azerbaijan are legal and institutional factors.

H3.1. In Azerbaijan, among legal and institutional factors and all sub-criteria, the complexity of tax law is the primary determinant of taxpayers' tax compliance.

H3.2. In Azerbaijan, among legal and institutional factors and all sub-criteria, being a transition economy is the primary determinant of taxpayers' tax compliance.

H3.3. In Azerbaijan, among legal and institutional factors and all sub-criteria, the quality of tax administration is the primary determinant of taxpayers' tax compliance.

Non-tax Compliance Opportunities

H4. The primary drivers of tax compliance behavior among taxpayers in Azerbaijan are non-tax compliance opportunities.

H4.1. In Azerbaijan, among non-tax compliance opportunities and all sub-criteria, business size is the primary determinant of taxpayers' tax compliance.

H4.2. In Azerbaijan, among non-tax compliance opportunities and all sub-criteria, tax knowledge is the primary determinant of taxpayers' tax compliance.

H4.3. In Azerbaijan, among non-tax compliance opportunities and all sub-criteria, tax compliance cost is the primary determinant of taxpayers' tax compliance.

IV. ANALYSIS

The fifth stage of the AHP methodology entailed carrying out a consistency test (Figure 1). Out of all the responses, 114 (63 from tax officers and 51 from taxpayers) meet the test's criteria. In terms of the hierarchy's complexity, a consistency ratio (CR) under 0.2 was determined to be acceptable for this study, a standard endorsed by Saaty as cited in Pauer et al. (2016) and Wedley (1993).

1. Global Weights and Ranks

1) Weights of the Criteria

One of its fundamental steps of the AHP methodology is to define the weight of decision criteria. In most decisions, not all criteria are equally important. Weights are used to represent the relative importance of each criterion in the context of the decision being made. By assigning weights to each criterion, AHP allows decision-makers to consider both qualitative and quantitative aspects of a decision. Upon checking the consistency of each

survey, the weights of the main criteria and local weights of the sub-criteria were calculated from the collated results. This was an integral part of the research process, designed to enable a robust comparison between the perspectives of taxpayers and tax officers, thereby leading to a robust conclusion. Interestingly, the results revealed a significant level of consensus between tax officers and taxpayers. Both ranked Criterion B₄ as a highly influential determinant of tax compliance, assigning weights of 0.332 and 0.373.

When it comes to the tax officers' survey, B₄ was closely followed by B₂ and B₃, assigned respective weights of 0.280 and 0.222. This result suggests that tax officers consider B₁ as the least impactful determinant of tax compliance. Whereas even though their assessment of the importance of B₁ echoed the views of taxpayers, taxpayers ranked B₃, as more influential than B₂, with respective weights of 0.234 and 0.197.

Referring to Table 3 and 4, it is evident that within the top-ranked B₄, tax officers prioritized sub-criteria C₁₁ by allocating it a weight of 3.97 percent, which is slightly higher compared to other sub-criteria. Conversely, taxpayers identified C₁₂ as the most significant sub-criteria, with a weight of 3.63 percent. However, the difference in the weight assigned by taxpayers to C₁₁ and C₁₂ is minuscule, just 0.1 percent. In last, both respondents considered business size as the least significant factor within B₄.

〈Table 3〉 Global Weight of the Level B

Criteria	Tax Officers	Taxpayers
	Global Weights	Global Weights
(B ₁) Economic Factors	0.166	0.196
(B ₂) Tax Morale	0.280	0.197
(B ₃) Legal & Institutional Factors	0.222	0.234
(B ₄) Non-tax Compliance Opportunity	0.332	0.373

2) Local Weights of the Sub-criteria

Saaty (1980) explains that the local weights represent the relative importance of sub-criteria within a particular parent criterion. These weights are derived by comparing each sub-criterion with every other sub-criterion within the same category. The process involves pairwise comparisons and using the eigen-vector method or another similar method to derive these weights. Local weights help in understanding which sub-criteria are more important within a specific criterion.

In the local ranking of the sub-criteria, both tax officers and taxpayers gave the same local weight to the sub-criteria of B₁ and B₂. Differences appeared in the local ranking of B₃ and B₄. Thus, while C₉ was put in the first place by both respondents, tax officers chose C₇ over C₈; taxpayers did vice versa. For the sub-criteria of B₄, both respondents put C₁₀ in the last rank, while C₁₁ was assessed in the first rank by tax officers and in the second by taxpayers (Table 4).

〈Table 4〉 The Weight of Category C

	Sub-Criteria	Tax Officers		Taxpayers	
		Local Weights	Local Ranks	Local Weights	Local Ranks
(B ₁) Economic Factor	(C ₂) Likelihood of Detection	0.432	1	0.425	1
	(C ₃) Penalty	0.341	2	0.377	2
	(C ₁) Tax rate	0.227	3	0.198	3
(B ₂) Tax Morale	(C ₅) Trust in Government	0.453	1	0.423	1
	(C ₆) Trust in Judiciary	0.301	2	0.315	2
	(C ₄) Fairness & Equity	0.245	3	0.262	3
(B ₃) Legal & Institutional Factors	(C ₉) Quality of Tax Administration	0.509	1	0.504	1
	(C ₇) Transition Economy	0.269	2	0.179	3
	(C ₈) Complexity of Tax Law	0.222	3	0.317	2
(B ₄) Non-tax Compliance Opportunity	(C ₁₁) Tax Knowledge	0.397	1	0.352	2
	(C ₁₂) Compliance Cost	0.352	2	0.363	1
	(C ₁₀) Business Size	0.251	3	0.286	3

3) Global Weights of the Category C

The global weights are obtained by multiplying the local weight of each sub-criterion by the weight of its parent criterion (Saaty, 1980) and used to compare sub-criteria across different criteria. They provide an overall view of the relative importance of each sub-criterion in the context of the entire decision-making problem. By looking at the global weights, decision-makers can prioritize different factors across the entire hierarchy, not just within individual categories.

Tax officers and taxpayers assessed C_5 as the most vital factor which affects taxpayers' tax compliance behavior, with the weight of 5.59 percent and 1.97 percent, respectively. The second and the third places have been taken by the two sub-criteria of the B_4 , C_{12} , and C_{11} in the assessment of both respondents.

C_1 , C_3 , and C_8 ranked the last in the tax officers' assessment with 0.38 percent, 0.57 percent, and 0.49 percent. For taxpayers, C_4 , C_7 , and C_1 take respectively the last ranks with the respective weight of 0.52, 0.42, and 0.13 percent (Table 5).

Significant disparities between the evaluations of the two respondent groups can be found in regard to C_6 and C_8 . Tax officers ranked C_6 fifth, attributing it a weight of 0.84 percent, while taxpayers placed it among the last four determinants with a weight of 0.62 percent. Although taxpayers ranked C_8 seventh with a 0.74 percent weight, it doesn't seem to be an important deterrent to tax compliance for tax officers as much as taxpayers' thinking.

〈Table 5〉 Global Weights of the Category C

	Sub-Criteria	Tax Officers		Taxpayers	
		Global Weights	Global Ranks	Global Weights	Global Ranks
(B ₁) Economic Factor	(C ₁) Tax rate	0.038	12	0.039	12
	(C ₂) Likelihood of Detection	0.072	7	0.083	6
	(C ₃) Penalty	0.057	10	0.074	8
(B ₂) Tax Morale	(C ₄) Fairness & Equity	0.069	8	0.052	10
	(C ₅) Trust in Government	0.559	1	0.197	1
	(C ₆) Trust in Judiciary	0.084	5	0.062	9
(B ₃) Legal & Institutional Factors	(C ₇) Transition Economy	0.060	9	0.042	11
	(C ₈) Complexity of Tax Law	0.049	11	0.074	7
	(C ₉) Quality of Tax Administration	0.113	4	0.118	4
(B ₄) Non-tax Compliance Opportunity	(C ₁₀) Business Size	0.083	6	0.107	5
	(C ₁₁) Tax Knowledge	0.132	2	0.131	3
	(C ₁₂) Compliance Cost	0.117	3	0.135	2

2. Discussions and Recommendations

Both taxpayers and tax officers deemed “noncompliance opportunities” as the primary determinant to enhance tax compliance. “Tax knowledge” and “tax compliance cost” among “non-compliance opportunities” were globally ranked second and third by the respondents (Table 5). “Tax knowledge” refers to specific knowledge that enables taxpayers, particularly multinational corporations, to navigate tax obligations and exploit loopholes across different jurisdictions, this study paid attention to tax knowledge as tax avoidance. Policy changes in Azerbaijan related to transfer pricing after 2016 are indicative of efforts to lay this foundational structure. Shortly after the completion of our survey, Azerbaijan joined the OECD’s Base Erosion and Profit Shifting Program, an initiative internationally recognized as a potent tool to combat tax avoidance on. This recent development underscores the

significance of “specific tax knowledge” as a determinant of tax compliance and stresses the urgency for concrete actions to neutralize its potential adverse impacts on tax compliance in Azerbaijan.

While it is essential to formulate stringent laws and regulations, effective execution is equally crucial for enhancing tax compliance. Tax officers are required to have necessary skills and knowledge to identify, examine, and duly handle instances of tax avoidance in line with the established legislation (Kirchler, 2007). In addition, it needs to prepare the judicial system both theoretically and practically for the correct enforcement of these regulations beyond the upskilling of tax officers.

New policy changes in 2018 increased tax compliance costs of taxpayers. Thus, new changes require bookkeeping of the taxpayers must be done only by accountants who hold professional certificates, even it is possible to reduce tax compliance costs by focusing on other sub-criteria such as “tax complexity” and “quality of tax administration.” Simplifying tax regulations, increasing the quality of taxpayers’ assistance services, and advancing the interchange electronic system between taxpayers and the tax authority can significantly reduce the time spent on tax compliance, making the process easier. Implementing the automated process by taxpayers also may assist in saving their time on tax compliance and reduce the potential risk of violation of tax rules. However, detailed research is still required to identify the extent of the possibilities to decrease tax compliance costs depending on the business size.

“Trust in government” is globally ranked first sub-criteria by all respondents. “Trust”, as a psychological contract between the government and taxpayers, must be fulfilled in good faith by all parties. The government expects taxpayers to pay taxes, while taxpayers want to get quality public goods and services from the government. Once the government does not fulfill their expectation properly, it is harmful to taxpayers’ trust in the

government.

This study explores four possible reasons why “trust in government” was chosen as the most significant sub-criterion in Azerbaijan. First, it might be related to reciprocity. Taxpayers think the government is not appropriately spending tax money to provide them with public goods and services. Improving public service delivery and encouraging tax education among the people can be solution for the issue. Delivering quality public services consistently and efficiently can significantly boost taxpayers’ confidence and trust in government (Van de Walle, 2007). Efforts should be made to ensure that taxpayers feel they are receiving value for their tax contributions. Additionally, ensuring that taxpayers understand the tax system and the importance of tax compliance can foster greater trust in government and improve compliance rates. Improving fiscal transparency, which will be discussed within in the third reason, is another way to improve reciprocity perception among taxpayers.

The second reason is related to corruption. OECD stated in its 2020 report on SME policy Index that eastern partner countries, including Azerbaijan haven’t achieved comparable progress in the Transparency International Corruption Perception Index (hereinafter CPI). Azerbaijan has been continuously sliding back in the CPI score and ranked 157th out of 180 countries in 2022.²⁾ Given the pervasive influence of perceived corruption on taxpayers’ trust in government, strengthening anti-corruption efforts is vital. This could involve stricter enforcement of anti-corruption laws, as well as increased penalties for corruption-related offenses.

The third, fiscal transparency in the government, might be inferred from the similar context of the above. Improved fiscal transparency can be crucial for increasing taxpayers’ trust in government (De Renzio et al., 2011). Budget openness increases people’s perception of government expenses and lets

2) <https://www.transparency.org/en/cpi/2022/index/aze>

them assess and monitor if budget revenue has been spent effectively and transparently. However, in 2021, the low score (nine out of 100) of the public participation budget process in the International Budget Partnership survey result³⁾ proved that taxpayers and all people in Azerbaijan are far beyond assessing government expenses due to a lack of budget openness and accountability. Therefore, regular, accessible, and comprehensible reporting of government revenues, expenditures, and debt can assure taxpayers that their contributions are being used judiciously and responsibly.

Another reason for the lack of people's trust in government might be the absence of citizen participation in budgeting, which could be a solution to improve trust. By involving citizens in deciding how public resources are allocated, the government can increase feelings of ownership and fairness, potentially fostering higher levels of tax compliance.

It would be beneficial for Azerbaijan to consider the successful experiences of other countries that have faced similar challenges. For example, the remarkable progress made by Georgia in improving its corruption perception index ranking and Albania's strides in public financial management could serve as an inspiration and provide valuable lessons (World Bank, 2018).

The last finding of the research is that a traditional approach such as "economic factors" is not significant in increasing tax compliance among taxpayers. This result puts one stream of the recent tax policy changes, which mostly focuses on the increase in the penalty, under question. However, according to the analysis, only the likelihood of the detection still influences taxpayers' behavior to comply with taxes. While talking about this sub-criterion, the quality of audit, which is correlated to the sub-criterion the "quality of tax administration" should not be overlooked. Long-lasting audits, the lack of supervision over corrupt behavior by tax inspectors, and the elimination of unjustified inspection and calculation are the focal points

3) <https://internationalbudget.org/open-budget-survey/country-results/2021/azerbaijan>

to consider when discussing tax administration quality. These are significant aspects that tax authorities should keep in mind.

V. CONCLUSION

The paper provides an understanding of which elements to primarily affect tax behaviors to enhance tax compliance in a transitioning economy. The paper employed the AHP methodology in order to hierarchically test the weights of criteria among 12 elements affecting tax compliance in Azerbaijan based on the literature review and recent policy changes.

Notably, the paper found that “non-tax compliance opportunities” and “trust in government” were the primary factors influencing tax compliance based on responses from 154 tax officers and payers. The study highlights Azerbaijan’s initial measures against non-compliance and emphasizes the need for system-wide adjustments. It also questions the traditional effectiveness of tax rates and penalties, and sheds light on the challenges of building trust between the government and taxpayers (Badalova, 2023). The research points to the necessity of considering other countries’ experiences, especially those of developing nations that have succeeded in combating non-compliance and fostering government trust. The paper’s findings align partially with recent policy changes in Azerbaijan but stress the need for firm actions to maximize compliance.

This research introduces new avenues for studying tax compliance in Azerbaijan, particularly as the country begins to implement policies against “aggressive tax avoidance.” It underscores the complexity of building trust in government, indicating that the four reasons discussed in the paper are not exhaustive in addressing the challenges related to trust. A more comprehensive examination is urged to uncover the fundamental factors

affecting the relationship between government and taxpayers.

Despite its valuable insights, the study faced some limitations, including a lack of open, detailed data in Azerbaijan, challenges with the maximum acceptable consistency ratio of AHP methodology, and possible correlations between some variables. These limitations notwithstanding, the paper significantly contributes to the field by aligning with recent policy changes in Azerbaijan and offering valuable recommendations for maximizing tax compliance. The study stands as a crucial resource for policymakers and future research, filling a gap in the literature and shedding light on essential aspects of tax compliance in a rapidly changing economy.

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아제르바이잔의 조세순응 결정요인에 대한 AHP 분석

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아제르바이잔과 같이 자원의존적이고 시장경제로의 전환을 경험하고 있는 과도기적 경제 하에서 성공적인 재정정책을 시행하기 위해서는 신중경제 특유의 역동적인 변화를 제대로 이해하고, 조세순응의 동인에 대하여 정확히 이해하여야 한다. 본 연구는 기존 문헌연구의 한계를 극복하기 위해 세무공무원과 납세자 등 관계자의 직접 설문을 통해 1차 자료수집에 집중하였다. 또한, 아제르바이잔에서 납세자의 납세업무 준수를 장려하거나 저해하는 주요 요인을 구분하여 조세순응의 결정요인을 다각도로 연구하고, 계층분석과정(Analytical Hierarchy Process)을 활용하여 결과를 도출하였다.

본 연구는 향후 조세정책을 수립할 때 조세불응 기회와 정부에 대한 신뢰가 조세순응에 미치는 유의미한 영향에 대해 고려할 필요성을 강조한다. 또한 본 연구는 아제르바이잔 납세자들의 조세순응에 미치는 영향에 대해 직접 실시한 설문을 바탕으로 분석함으로써 포스트 소비에트 국가뿐만 아니라 개발도상국에서 발생하는 조세순응 행위에 대해 관심을 가지는 정책 입안자와 국제기구, 조세행정전문가 및 연구자들에게 정책적 함의를 제공한다.

[주제어: 조세순응, AHP, 경제적 요인, 납세의식, 법적 제도적 요인, 조세불응요인]

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