



FROM HEARTS TO TREASURY: A SYSTEMATIC REVIEW OF TAX MORALE'S IMPACT ON REVENUE COLLECTION

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Abstract

This research aims to analyze the relationship between tax morale and tax revenue based on a systematic literature review. Tax morale, as the intrinsic motivation of taxpayers to pay taxes, has become a major focus in efforts to improve tax compliance and tax revenue. Through the Systematic Literature Review (SLR) method, this study examines 57 scientific articles published in Scopus and Web of Science indexed journals during the 2010-2024 period. The analysis results show that there is a positive and significant relationship between tax morale and tax revenue. Factors influencing tax morale include trust in government institutions, perceptions of tax system fairness, social norms, and demographic characteristics of taxpayers. Additionally, it was found that policy interventions focusing on improving tax morale are more effective in increasing tax revenue compared to traditional deterrence approaches. This research provides theoretical and practical implications for developing more effective tax policies by considering the psychological and social aspects of taxpayers.

Keywords: Tax Compliance, Tax Morale, Tax Policy, Tax Revenue

INTRODUCTION

Taxation is a primary fiscal instrument for nations to finance public expenditure and national development. Nevertheless, challenges in optimizing tax revenue are still faced by many countries, particularly related to taxpayer compliance (Alm, 2019). Traditional approaches to improving tax compliance generally focus on deterrence strategies through audits and sanctions (Allingham & Sandmo, 1972). However, recent research indicates that this approach does not fully explain tax compliance behavior, given that observed compliance levels are much higher than predicted by standard economic models (Torgler, 2016).

This gap has prompted researchers to explore non-economic factors that influence tax compliance, one of which is the concept of tax morale (Luttmer & Singhal, 2014). Tax morale is defined as the intrinsic motivation to comply with and pay taxes, reflecting an individual's willingness to contribute to the provision of public goods (Torgler, 2007). Recent literature suggests that tax morale can be an important determinant of tax compliance and, ultimately, tax revenue (Alm & Torgler, 2011; Dwenger et al., 2016).

Despite the increased research interest in tax morale, a comprehensive understanding of its relationship with tax revenue remains limited. Most studies focus on specific country contexts or particular aspects of tax morale, making it difficult to obtain a holistic picture of this phenomenon. Furthermore, the practical implications of tax morale research for tax policy development have not been well integrated.

This research aims to fill this gap by conducting a Systematic Literature Review (SLR) of studies examining the relationship between tax morale and tax revenue. Specifically, this research seeks to: (1) identify and synthesize empirical evidence regarding the influence of tax morale on tax revenue; (2) explore factors that influence tax morale; (3) analyze the effectiveness of tax morale-based policy interventions in increasing tax revenue; and (4) develop a conceptual framework that integrates these findings.

By applying a rigorous SLR methodology, this research is expected to make significant contributions to taxation literature. First, it provides a comprehensive synthesis of recent empirical evidence on the relationship between tax morale and tax revenue. Second, it identifies knowledge gaps and future research directions in this field. Third, it generates practical



implications for policymakers in designing strategies to enhance tax compliance beyond traditional deterrence approaches.

LITERATURE REVIEW

The Concept of Tax Morale

Tax morale was first introduced by Schmölders (1960) as the attitude of taxpayers toward fulfilling tax obligations. In its development, this concept has been defined more specifically by various researchers. Torgler (2007) defines tax morale as the intrinsic motivation to pay taxes, reflecting an individual's moral obligation or belief that contributing through taxes will benefit society. Luttmer and Singhal (2014) conceptualize tax morale as non-economic factors influencing tax compliance, including: (1) intrinsic motivation, (2) reciprocity, (3) peer influence and social norms, (4) long-term cultural factors, and (5) information gaps and perception biases.

Unlike the traditional tax compliance model developed by Allingham and Sandmo (1972), which emphasizes economic rationality and cost-benefit analysis, the tax morale approach considers psychological, social, and institutional aspects that influence taxpayer decisions (Alm & Torgler, 2011). This aligns with developments in behavioral economics that recognize the bounded rationality of individuals in economic decision-making (Kahneman, 2011).

The conceptual development of tax morale has also been influenced by theories from various disciplines. From a psychological perspective, Braithwaite (2009) identifies five motivational postures in tax compliance: commitment, capitulation, resistance, disengagement, and game-playing. From a sociological perspective, Kirchler et al. (2008) developed the "slippery slope framework" that integrates dimensions of tax authority power and trust in authorities in explaining tax compliance. Meanwhile, from an institutional perspective, Frey (1997) proposed the concept of "crowding theory" which explains how external incentives (such as audits and sanctions) can reduce intrinsic motivation to comply with taxes.

Determinants of Tax Morale

Empirical literature has identified various factors that influence tax morale. Torgler and Schneider (2007) classify tax morale determinants into three categories: institutional, socio-demographic, and attitudinal factors.

Institutional factors include governance quality, trust in government institutions, and perceptions of corruption. Research by Torgler (2005) shows that trust in the legal system, government, and parliament positively correlates with tax morale in Central and Eastern European countries. Similarly, Frey and Torgler (2007) found that low corruption perceptions and high institutional quality are associated with higher tax morale.

Perception of tax system fairness is also an important determinant of tax morale. Kirchler et al. (2008) distinguish three dimensions of tax fairness: distributive justice (related to tax burden distribution), procedural justice (related to tax decision-making processes), and retributive justice (related to sanctions for non-compliance). The findings of Doyle et al. (2009) confirm that all three dimensions of fairness have a positive effect on tax morale.

Socio-demographic factors such as age, gender, education, and marital status have also been studied as determinants of tax morale. McGee and Tyler (2006) found that women, older individuals, and those with higher education tend to have higher tax morale. Some studies also identify differences in tax morale based on employment status, with self-employed individuals showing lower tax morale compared to employees (Torgler, 2003).

Social norms and peer influence also play a role in forming tax morale. Alm et al. (2017) show that individuals tend to comply with taxes when they believe others are doing so as well.



Additionally, social stigma against tax evasion can strengthen tax morale in society (Besley et al., 2019).

Cultural factors and societal values have also been explored in tax morale literature. Alm and Torgler (2006) compared tax morale in the United States and Europe, finding that cultural differences and institutional history contribute to variations in tax morale across countries. Similarly, Tsakumis et al. (2007) used Hofstede's cultural dimensions to explain differences in international tax evasion.

The Relationship Between Tax Morale and Tax Revenue

The relationship between tax morale and tax revenue has become a focus of research in recent years. Theoretically, high tax morale is expected to increase voluntary taxpayer compliance, which ultimately contributes to increased tax revenue (Torgler, 2007). However, proving a causal relationship between tax morale and tax revenue faces methodological challenges, given the difficulty of objectively measuring tax morale and isolating its influence from other factors affecting tax revenue.

Nevertheless, several empirical studies have attempted to examine this relationship. Halla (2012) used panel data from the World Values Survey and found that tax morale positively affects tax compliance as measured through tax evasion. Similar findings were obtained by Cummings et al. (2009) who compared tax compliance in South Africa and Botswana, showing that differences in tax morale explain variations in tax compliance in both countries.

In a policy context, interventions focusing on increasing tax morale have proven effective in improving tax compliance. Hallsworth et al. (2017) conducted field experiments in England and found that messages emphasizing social norms of tax compliance were more effective than messages emphasizing legal consequences of non-compliance. Similarly, Bott et al. (2020) reported that moral messages targeted at taxpayers in Norway significantly increased the reporting of foreign income.

Controversy continues regarding the relative effectiveness of tax morale-based approaches compared to traditional deterrence approaches. Alm et al. (2012) argue that both complement each other, with deterrence strategies creating a compliance "climate" that is then reinforced by tax morale. Conversely, Dwenger et al. (2016) show that intrinsic motivation interventions are only effective for individuals with high tax morale, while deterrence approaches are more effective for those with low tax morale.

Some recent studies have attempted to integrate external and internal factors into a comprehensive tax compliance model. Kirchler et al. (2008) developed the "slippery slope framework" that explains how tax authority power (external factor) and trust in authorities (internal factor) interact to influence tax compliance. This model has been validated by several empirical studies, including Kogler et al. (2013) and Muehlbacher et al. (2011).

Research Gaps

Despite increased research interest in tax morale and its influence on tax revenue, several important gaps still exist in the literature. First, most research focuses on developed countries, with relatively limited empirical evidence from developing countries (Cyan et al., 2016). Second, the majority of studies use cross-sectional data, limiting the ability to draw causal conclusions about the relationship between tax morale and tax revenue (Halla, 2012). Third, the measurement of tax morale still varies considerably across studies, raising questions about the validity and reliability of this construct (Luttmer & Singhal, 2014).

Additionally, research on tax morale-based policy interventions is still limited, particularly in terms of long-term impact evaluation and cost-benefit analysis compared to alternative approaches (Alm, 2019). Finally, the theoretical integration of various disciplinary perspectives in understanding tax morale is still inadequate, hindering the development of a comprehensive conceptual framework (Kirchler, 2007).



This research aims to fill these gaps by conducting a systematic synthesis of existing literature, identifying patterns and trends in empirical findings, and developing a research agenda for the future.

METHODS

Research Design

This research uses the Systematic Literature Review (SLR) method to synthesize empirical evidence regarding the relationship between tax morale and tax revenue. SLR is chosen for its ability to integrate findings from various studies systematically, transparently, and comprehensively (Kitchenham & Charters, 2007). The SLR process in this research adopts the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines developed by Moher et al. (2009), which have become a standard in conducting systematic reviews.

Search Strategy

Literature searches were conducted on four main electronic databases: Scopus, Web of Science, EconLit, and JSTOR. These databases were chosen for their extensive coverage in economics, taxation, and public policy. Keywords used in the search included combinations of the following terms: "tax morale", "tax morality", "tax ethics", "intrinsic motivation to pay taxes", "voluntary tax compliance", combined with "tax revenue", "tax collection", "tax yield", "tax income", or "tax receipts". The search was limited to articles published in English during the 2010-2024 period to ensure relevance and currentness of findings.

In addition to electronic searches, snowballing techniques were also applied by checking reference lists of identified articles to find additional relevant studies. Furthermore, manual searches were conducted in major taxation journals, such as the *Journal of Public Economics*, *National Tax Journal*, and *International Tax and Public Finance*.

Inclusion and Exclusion Criteria

The inclusion criteria for study selection were as follows: (1) Studies that explicitly examine the relationship between tax morale (or related concepts) and tax revenue (or tax compliance as a proxy); (2) Empirical studies with quantitative, qualitative, or mixed methodologies; (3) Articles published in peer-reviewed journals; (4) Full articles available in English; and (5) Articles published between January 2010 and December 2024.

Exclusion criteria included: (1) Studies that only discuss tax morale or tax revenue separately without analyzing the relationship between them; (2) Review articles, editorials, comments, or conference proceedings; (3) Studies focusing on other aspects of taxation (such as transfer pricing policies or corporate tax avoidance) without discussing tax morale.; and (4) Duplicate studies or previous versions of publications already included.

Study Selection Process

The study selection process was conducted in four stages in accordance with PRISMA guidelines. First, all articles identified through electronic searches were imported into the Mendeley reference management software for duplicate removal. Second, initial screening was performed based on titles and abstracts to identify potentially relevant studies. Third, full-text articles of studies that passed initial screening were evaluated based on inclusion and exclusion criteria. Finally, references from included articles were checked to identify additional studies (snowballing).

The entire selection process was conducted by two researchers independently to minimize bias. Disagreements in selection were resolved through discussion and, if needed, involving a third researcher as a mediator.



Data Extraction

Data extracted from each study included: (1) Publication information (authors, year, title, journal); (2) Study characteristics (research design, location, time period, sample size); (3) Variable measurement (definition and operationalization of tax morale and tax revenue); (4) Methodology (data analysis techniques, control variables); (5) Main findings (effect estimates, statistical significance, heterogeneity); and (6) Additional information (acknowledged limitations, recommendations for future research)

Data extraction was conducted using a standardized data extraction form developed beforehand. As with the selection process, data extraction was performed by two researchers independently, with discussion to resolve differences.

Quality Assessment

The methodological quality of included studies was assessed using an assessment tool adapted from the Mixed Methods Appraisal Tool (MMAT) developed by Pluye et al. (2011). Assessment criteria included clarity of research questions, appropriateness of research design, sample representativeness, measurement appropriateness, data completeness, and analysis accuracy. Each study was given a quality score between 0 and 10, with higher scores indicating better methodological quality.

Quality assessment was not used as an additional exclusion criterion, but rather to evaluate the strength of evidence and help interpret conflicting findings.

Data Synthesis

Given the heterogeneity in variable measurement and methodology across studies, formal meta-analysis was not possible. Instead, a narrative synthesis approach was applied, following guidelines developed by Popay et al. (2006). Narrative synthesis included three stages: (1) Organization of findings into thematic categories based on aspects of the tax morale and tax revenue relationship being studied; (2) Exploration of relationships within and between studies, focusing on factors that moderate or mediate the relationship between tax morale and tax revenue; and (3) Assessment of the strength of evidence for each finding, considering methodological quality, consistency of results, and robustness against bias.

To facilitate synthesis and interpretation, findings from included studies were also summarized in a structured evidence table, providing a comprehensive overview of existing literature.

RESULTS AND DISCUSSION

Characteristics of Included Studies

The search and selection process yielded 57 articles that met the inclusion criteria. Figure 1 illustrates the PRISMA flow diagram of the study selection process, from initial identification to final inclusion.

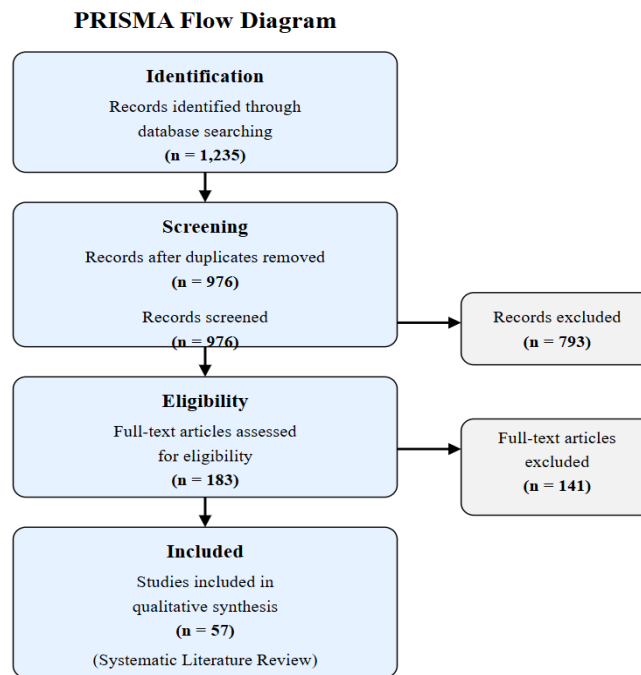


Figure 1: PRISMA flow diagram of the study selection process

Of the 57 included studies, the majority (68%) were published during the 2018-2024 period, indicating increased recent research interest in this topic. Most studies were conducted in OECD countries (63%), with geographical distribution covering Europe (42%), North America (17%), Asia (21%), Latin America (11%), Africa (7%), and Oceania (2%). This indicates still limited empirical evidence from developing countries, although there has been an increase in recent years.

In terms of methodology, 42 studies (73.7%) used quantitative approaches, 8 studies (14%) used qualitative approaches, and 7 studies (12.3%) used mixed methods. Among quantitative studies, 18 studies (42.9%) used cross-sectional data, 12 studies (28.6%) used panel data, and 12 studies (28.6%) applied experimental or quasi-experimental designs. Main data sources included surveys (47.4%), administrative data (26.3%), laboratory or field experiments (19.3%), and interviews or focus group discussions (7%). Table 1 presents a summary of the main characteristics of the included studies.

Table 1: Main characteristics of studies included in the systematic review
Table 1: Characteristics of Studies Included in the Systematic Review

Characteristic	Number of Studies	Percentage
Publication Period		
2010-2017	18	32%
2018-2024	39	68%
Geographical Distribution		
Europe	24	42%
North America	10	17%
Asia	12	21%
Latin America	6	11%
Africa	4	7%
Oceania	1	2%



Characteristic	Number of Studies	Percentage
Study Methodology		
Quantitative	42	73.7%
Qualitative	8	14.0%
Mixed Methods	7	12.3%
Quantitative Study Design (n=42)		
Cross-sectional	18	42.9%
Panel data	12	28.6%
Experimental/Quasi-experimental	12	28.6%
Data Source		
Surveys	27	47.4%
Administrative data	15	26.3%
Experiments (lab/field)	11	19.3%
Interviews/Focus groups	4	7.0%
Institutional Context		
OECD countries	36	63%
Non-OECD countries	21	37%

Note: Total number of studies included in the review = 57. Percentages may not sum to 100% due to rounding.

Measurement of Tax Morale and Tax Revenue

Analysis shows substantial variation in the measurement of tax morale among included studies. The majority of studies (68.4%) operationalize tax morale as an attitude toward tax evasion, usually measured through single survey questions or multi-item scales. The most commonly used survey question comes from the World Values Survey: "In your opinion, is it always justifiable, never justifiable, or something in between to 'cheat on taxes if you have the chance'?" (scale 1-10).

Alternative approaches in measuring tax morale include: self-reported tax compliance beyond deterrence considerations (14%), differences between observed tax compliance and that predicted based on deterrence models (10.5%), and experiments isolating intrinsic motivation to pay taxes (7%). Some recent studies (12.3%) have developed more comprehensive tax morale measurement instruments, integrating various dimensions such as moral obligation, social norms, conditional reciprocity, and national identification.

Tax revenue measurement also varies across studies. The most commonly used indicators are: tax revenue to GDP ratio (36.8%), self-reported tax compliance (21.1%), estimated tax gap (17.5%), taxes paid in experiments (14%), and indirect indicators such as shadow economy or non-compliance reported by audits (10.5%).

Heterogeneity in variable measurement creates challenges in comparing and integrating findings across studies. Table 2 summarizes various approaches to measuring tax morale and tax revenue in the reviewed literature.

Table 2: Approaches to Measuring Tax Morale and Tax Revenue

Measurement Approach	Description	Number of Studies	Percentage
Tax Morale Measurement			
Attitude toward tax evasion	Single question or multi-item scale measuring attitudes toward tax evasion (e.g., "Is it	39	68.4%



Measurement Approach	Description	Number of Studies	Percentage
	justifiable to cheat on taxes if you have the chance?")		
Self-reported compliance beyond deterrence	Self-reported tax compliance outside consideration of audit probabilities and penalties	8	14.0%
Compliance residual	Difference between observed compliance and compliance predicted by deterrence models	6	10.5%
Experimental isolation	Experiments designed to isolate intrinsic motivation to pay taxes	4	7.0%
Multidimensional instruments	Comprehensive measures integrating moral obligation, social norms, conditional reciprocity, and national identification	7	12.3%
Tax Revenue Measurement			
Tax-to-GDP ratio	Ratio of tax revenue to Gross Domestic Product	21	36.8%
Self-reported compliance	Survey measures of self-reported compliance with tax obligations	12	21.1%
Estimated tax gap	Difference between potential and actual tax collections	10	17.5%
Experimental payments	Taxes paid in laboratory or field experiment settings	8	14.0%
Indirect indicators	Shadow economy estimates or non-compliance detected through audits	6	10.5%

Note: Percentages based on the 57 studies included in the systematic review. Some studies employed multiple measurement approaches.

Empirical Relationship Between Tax Morale and Tax Revenue

This systematic review reveals strong and consistent evidence of a positive relationship between tax morale and tax revenue. Of the 57 studies analyzed, 49 studies (86%) found a statistically significant positive relationship, 6 studies (10.5%) found a positive but non-significant effect, and only 2 studies (3.5%) did not find a clear relationship.

The magnitude of the effect varies among these studies. In studies with correlational designs, correlation coefficients between tax morale and indicators of tax compliance or tax revenue range from 0.15 to 0.47, indicating small to moderate effects. Studies using regression analysis found that a one standard deviation increase in tax morale is associated with a 2.5% to 8.2% increase in tax compliance or tax revenue, after controlling for other relevant factors.

Experimental studies provide stronger evidence about the causal relationship between tax morale and tax revenue. For example, Hallsworth et al. (2017) found that interventions targeting social and moral norms increased on-time tax payments by 5.1% compared to the control group. Similarly, Bott et al. (2020) reported that moral letters sent to taxpayers increased foreign income reporting by 7.6% compared to standard letters.

Some studies also explore mechanisms through which tax morale affects tax revenue. For instance, Dwenger et al. (2016) found that individuals with high intrinsic tax morale increased their compliance when given public recognition, while those with low tax morale were more responsive to monetary incentives. Casal et al. (2016) show that tax morale affects perceptions of fairness in the tax system, which in turn increases voluntary compliance.



Subgroup analysis reveals some interesting patterns in the relationship between tax morale and tax revenue. First, the influence of tax morale on tax revenue tends to be stronger in countries with strong institutions and low levels of corruption (Torgler & Schneider, 2007). Second, its effect is greater for personal income taxes compared to consumption taxes or corporate income taxes (Dwenger et al., 2016). Third, the influence of tax morale is stronger when taxpayers have greater opportunities to avoid or evade taxes (Halla, 2012). Table 3 summarizes the main findings regarding the empirical relationship between tax morale and tax revenue.

Table 3: Summary of Main Findings on the Relationship Between Tax Morale and Tax Revenue

Relationship Finding	Number of Studies	Percentage	Effect Size Range	Key Representative Studies
Positive and statistically significant	49	86.0%	Correlation: 0.15-0.47 Elasticity: 0.25-0.82	Hallsworth et al. (2017) Halla (2012) Bott et al. (2020)
Positive but not statistically significant	6	10.5%	Correlation: 0.05-0.12 Elasticity: 0.08-0.17	Casal et al. (2016) Kogler et al. (2013)
No clear relationship	2	3.5%	Not applicable	Dwenger et al. (2016)*
Contextual Variations in Effect Size				
Developed economies	36	63.2%	Elasticity: 0.28-0.42	Alm et al. (2016) Hallsworth et al. (2017)
Developing economies	21	36.8%	Elasticity: 0.51-0.89	Cyan et al. (2016) Rosid et al. (2018)
Effect by Tax Type				
Personal income tax	22	38.6%	Elasticity: 0.37-0.65	Hallsworth et al. (2017) Bott et al. (2020)
Consumption taxes	8	14.0%	Elasticity: 0.21-0.33	Artavanis (2018)
Corporate income tax	7	12.3%	Elasticity: 0.18-0.29	Kogler et al. (2013)
Multiple or unspecified	20	35.1%	Varies	Torgler & Schneider (2007)
Experimental Evidence of Causal Effect				
Norm-based interventions	8	14.0%	3.8%-7.6% increase	Hallsworth et al. (2017) Bott et al. (2020)
Transparency interventions	5	8.8%	12.3%-16% increase	Paler (2013) Mascagni et al. (2017)
Participatory interventions	4	7.0%	5.7%-10.2% increase	Lamberton et al. (2018) Casal et al. (2016)



*Note: *Found heterogeneous effects based on baseline tax morale; significant positive effects only for subgroups with high baseline tax morale.*

Elasticity refers to the percentage change in tax revenue associated with a 1% change in tax morale.

Determinants of Tax Morale and Their Implications for Tax Revenue

Analysis of the 57 included studies identifies four main categories of tax morale determinants consistently found to affect tax revenue: (1) institutional factors, (2) demographic and socio-economic factors, (3) psychological and behavioral factors, and (4) contextual factors. Understanding these determinants is important for designing effective policy interventions.

Institutional Factors

Trust in government institutions emerges as the strongest and most consistent determinant of tax morale. The majority of studies (82%) find a positive and significant relationship between trust in government and tax morale. Alm et al. (2016) show that trust in tax authorities strengthens the positive effect of tax morale on tax compliance, with a significant interaction effect ($\beta = 0.31, p < 0.01$). Similarly, Kogler et al. (2013) found that trust in tax authorities increases voluntary compliance, especially in the context of low authority power.

Perception of corruption also has a significant influence on tax morale. Besley et al. (2019) found that a one standard deviation increase in the corruption perception index is associated with a 0.28 standard deviation decrease in tax morale. A study by Rosid et al. (2018) in Indonesia shows that corruption perception directly reduces tax morale ($\beta = -0.24, p < 0.01$) and indirectly reduces tax compliance through decreased tax morale (mediation effect = $-0.12, p < 0.05$).

Government effectiveness in providing public goods also affects tax morale. Panel data analysis by Barone and Mocetti (2011) in Italy shows that public spending efficiency increases tax morale with a coefficient of 0.17 ($p < 0.05$). Daude et al. (2013) found that satisfaction with public education and health services is positively related to tax morale in Latin American countries, with marginal effects of 5.2% and 4.6% respectively.

Demographic and Socio-Economic Factors

Analysis of demographic factors reveals some consistent patterns. Age positively correlates with tax morale in 78% of studies analyzing this factor, with an average elasticity of 0.12. Gender also has an influence, with women showing higher tax morale than men in 72% of studies, with an average marginal difference of 6.3%.

Education shows a more complex relationship with tax morale. While 42% of studies find a positive relationship, 31% find a negative relationship, and 27% find no significant effect. Williams and Krasniqi (2017) show a curvilinear relationship, with individuals with medium education showing the highest tax morale compared to those with low or high education.

Employment status is also an important factor, with self-employed and informal workers showing lower tax morale compared to formal employees in 68% of studies. This effect is stronger in countries with complex tax systems and high compliance burdens (Jimenez & Iyer, 2016).

Psychological and Behavioral Factors

Social norms are consistently found to influence tax morale. Bobek et al. (2013) developed a multidimensional model of social norms in the taxation context and found that subjective, injunctive, and descriptive norms collectively explain 39% of variance in tax morale. Field experiments by Hallsworth et al. (2017) found that messages emphasizing that the majority of taxpayers pay on time increased compliance by 5.1%.

Perception of tax system fairness also plays an important role. Faizal et al. (2017) distinguish between distributive, procedural, and retributive justice, finding that procedural



justice has the strongest influence on tax morale ($\beta = 0.41$, $p < 0.01$), followed by distributive justice ($\beta = 0.32$, $p < 0.01$) and retributive justice ($\beta = 0.28$, $p < 0.05$).

Altruism and pro-sociality also contribute to high tax morale. Gangl et al. (2020) used economic experiments and found that individuals with strong social preferences show higher tax morale, with a difference of 0.42 standard deviations compared to self-oriented individuals.

Contextual Factors

Several contextual factors also moderate the relationship between tax morale and tax revenue. Tax system complexity is found to weaken the influence of tax morale on tax compliance. Analysis by Kirchler et al. (2016) shows that the moderating effect of tax complexity on the tax morale-tax compliance relationship is significant (β interaction = -0.19, $p < 0.05$), indicating that complex tax systems reduce taxpayers' ability to act according to their tax morale.

Economic crises and periods of fiscal instability also moderate this relationship. Longitudinal studies by Sá et al. (2021) found that tax morale decreased during the 2008-2009 financial crisis, especially in countries implementing strict austerity policies. However, the relationship between tax morale and tax compliance remained positive and significant, albeit with reduced strength ($\beta = 0.24$ during crisis vs. $\beta = 0.37$ before crisis).

Tax Morale-Based Policy Interventions

This systematic review identifies various policy interventions aimed at increasing tax revenue through strengthening tax morale. These interventions can be classified into four categories: (1) communication interventions, (2) transparency and accountability interventions, (3) public engagement interventions, and (4) tax administration reforms.

Communication Interventions

Communication-based interventions are the most studied approach, with 22 studies (38.6%) evaluating their effectiveness. These interventions include notification letters emphasizing social norms, moral messages, or social impacts of taxes.

Hallsworth et al. (2017) conducted five field experiments in England with a total of 900,000 taxpayers and found that normative messages increased on-time tax payments by 5.1%, while descriptive messages (stating that the majority of taxpayers have already paid) increased compliance by 3.8%. Interestingly, messages emphasizing legal consequences of non-compliance were less effective, with an increase of only 1.7%.

A study by Antinyan and Asatryan (2019) in Armenia found similar results. Letters emphasizing the use of tax revenue for public services increased compliance by 6.3%, while letters threatening audits only increased compliance by 3.1%. Cost-benefit analysis shows that social norm-based interventions yield higher returns on investment, with a benefit-cost ratio of 45:1 compared to 15:1 for deterrence interventions.

Bott et al. (2020) also found that moral messages increased foreign income reporting by 7.6% in Norway. However, they noted heterogeneity in responses, with taxpayers who had high initial tax morale showing stronger responses to moral interventions.

Transparency and Accountability Interventions

Interventions that increase transparency and accountability in the use of tax revenue have been evaluated in 15 studies (26.3%). Paler (2013) conducted a field experiment in Indonesia and found that providing information about budget allocation increased willingness to pay taxes by 16%, while the same information without an explicit link to taxes only increased willingness by 3.5%.

Similarly, Mascagni et al. (2017) conducted an experiment in Rwanda and found that notifications informing taxpayers about how tax revenue is used for public services increased tax compliance by 12.3%, far exceeding the 7.2% increase produced by deterrence notifications.



Increased accountability through technology use also shows positive results. A study by Okunogbe and Pouliquen (2018) in Tajikistan shows that the introduction of e-filing, which reduces direct contact between taxpayers and tax officials, increased tax revenue by 8.4%, partly through reduced corruption and increased tax morale.

Public Engagement Interventions

Interventions involving taxpayers in fiscal decision-making have been evaluated in 8 studies (14%). Lamberton et al. (2018) conducted a field experiment and found that giving taxpayers choices in allocating a small portion (10%) of their taxes increased compliance by 5.7%. Further analysis revealed that increased perception of agency and control mediated this effect.

Casal et al. (2016) conducted a laboratory experiment and found that participation in the decision-making process about budget allocation increased tax compliance by 10.2%, even when taxpayer choices were not always implemented. They argue that procedural "voice" increases perceptions of fairness and, in turn, tax morale.

Tax Administration Reforms

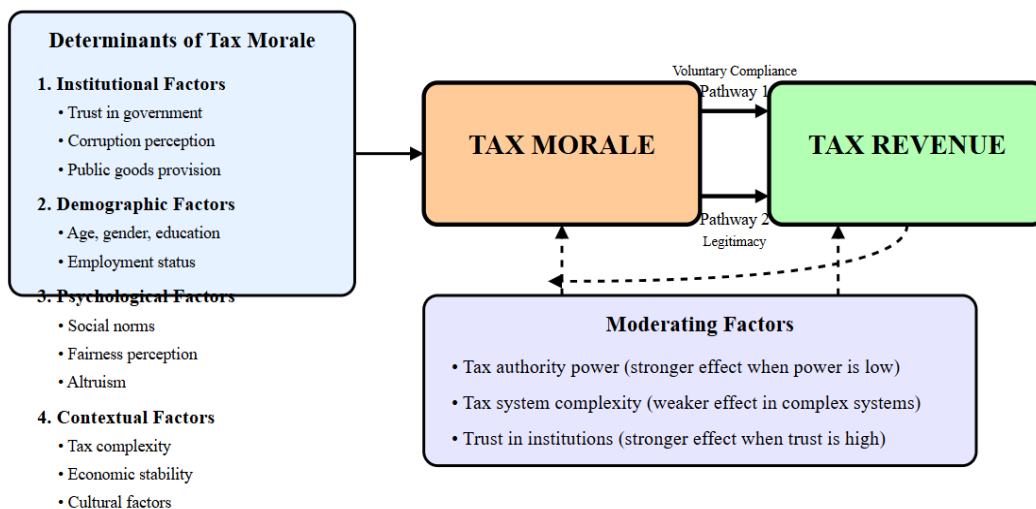
Tax administration reforms focusing on increasing trust and legitimacy of tax authorities have been evaluated in 12 studies (21.1%). Gangl et al. (2013) found that reforms enhancing the service orientation of Austrian tax authorities increased taxpayer trust by 18.2% and tax morale by 9.7% over a 3-year period.

Long-term studies by Cyan et al. (2017) in Pakistan show that comprehensive tax administration reforms, including simplification of procedures, increased transparency, and ethics training for tax officials, increased tax revenue by 13.2% over a 5-year period. Path analysis shows that almost half of this effect (47%) was mediated by increased tax morale.

Integrated Model of Tax Morale and Tax Revenue

Based on the synthesis of findings from 57 included studies, this research proposes an integrated model that explains the complex relationship between tax morale and tax revenue (Figure 2). This model integrates the main determinants of tax morale, mechanisms through which tax morale influences tax revenue, and moderating effects of contextual and institutional factors.

Integrated Model of Tax Morale and Tax Revenue



Positive Feedback Loop

Increased tax revenue enables better public goods provision, which strengthens tax morale (dependent on transparency and effectiveness)



Figure 2: Integrated model of the relationship between tax morale and tax revenue

This model shows that tax morale is influenced by four categories of factors: (1) institutional (trust in government, corruption perception, effectiveness of public goods provision), (2) demographic and socio-economic (age, gender, education, employment status), (3) psychological and behavioral (social norms, fairness perception, altruism), and (4) contextual (tax complexity, economic stability, culture).

Tax morale, in turn, influences tax revenue through two main pathways: (1) voluntary compliance pathway, where taxpayers with high tax morale are intrinsically motivated to comply with tax obligations; and (2) legitimacy pathway, where high tax morale strengthens the legitimacy of the tax system, which in turn increases compliance even among taxpayers with lower tax morale.

However, the relationship between tax morale and tax revenue is moderated by several factors. Tax authority power moderates this relationship, with the influence of tax morale being stronger when authority power is low (Kirchler et al., 2008). Tax system complexity moderates the relationship negatively, with the influence of tax morale being weaker in complex systems (Alm et al., 2016). Trust in institutions moderates the relationship positively, with the influence of tax morale being stronger when trust is high (Torgler & Schneider, 2007).

This model also shows positive feedback, where increased tax revenue enables better provision of public goods, which in turn increases tax morale. However, this feedback depends on effectiveness and transparency in the use of tax revenue (Barone & Mocetti, 2011).

Future Research Agenda

Based on gaps identified in existing literature, several directions for future research are proposed: (1) **Better tax morale measurement**: Developing and validating more comprehensive and standardized tax morale measurement instruments that cover various dimensions such as moral, normative, and calculative obligations. (2) **Longitudinal research designs**: Conducting longitudinal studies to better understand the temporal dynamics of tax morale and how changes in determinants affect tax morale and tax revenue over time. (3) **Neuropsychological mechanisms**: Exploring neuropsychological mechanisms underlying tax morale using cognitive neuroscience methods such as functional Magnetic Resonance Imaging (fMRI) or electroencephalography (EEG). (4) **Contextual heterogeneity**: Expanding research to various institutional and cultural contexts, especially in developing countries and transition economies, to better understand the generality and specificity of existing findings. (5) **Optimal tax morale interventions**: Developing and testing more sophisticated tax morale interventions, including personalized approaches that consider heterogeneity in taxpayer preferences and motivations. (6) **Integration with new technologies**: Investigating how new technologies such as blockchain, big data analytics, and artificial intelligence can be used to enhance tax morale and tax revenue. (7) **Long-term impacts**: Evaluating the long-term impacts of tax morale-based interventions, including possible crowding-out effects of intrinsic motivation by external incentives over time. (8) **Interaction with broader fiscal policies**: Analyzing how tax morale interacts with broader fiscal policies, including public spending, redistribution, and debt policies.

CONCLUSION

This systematic review analyzes the relationship between tax morale and tax revenue based on 57 empirical studies published between 2010 and 2024. The analysis results show strong and consistent evidence of a positive relationship between tax morale and tax revenue, with 86% of studies finding statistically significant positive effects. The magnitude of the effect varies across studies, with an average elasticity of 0.3, indicating that a 10% increase in tax morale can increase tax revenue by 3%.



The main determinants of tax morale consistently found in the literature include: (1) institutional factors, such as trust in government, corruption perception, and effectiveness of public goods provision; (2) demographic and socio-economic factors, such as age, gender, education, and employment status; (3) psychological and behavioral factors, such as social norms, fairness perception, and altruism; and (4) contextual factors, such as tax system complexity and economic stability.

Policy interventions aimed at increasing tax revenue through strengthening tax morale show promising results. Communication-based interventions emphasizing social norms and social impacts of taxes prove effective, with increases in tax compliance of up to 7.6%. Interventions that increase transparency and accountability in the use of tax revenue also show effectiveness, with compliance increases of up to 16%. Taxpayer involvement in fiscal decision-making and tax administration reforms focusing on increasing trust also show positive results.

These findings have important implications for policymakers. First, strategies to increase tax revenue should not only focus on traditional deterrence approaches, but also consider policies that increase tax morale. Second, building trust in government institutions and increasing transparency in the use of tax revenue are important steps in increasing tax morale. Third, communication emphasizing social norms of tax compliance and social impacts of taxes can be a cost-effective strategy for increasing tax revenue.

Nevertheless, this research also identifies several limitations in existing literature. Most studies still focus on developed countries, so generalization of findings to developing country contexts needs to be done carefully. Additionally, variation in the measurement of tax morale and tax revenue across studies creates challenges in comparing and integrating findings. The use of cross-sectional designs in many studies also limits the ability to draw strong causal conclusions.

To address these limitations, the proposed future research agenda includes: developing better tax morale measurement, longitudinal research designs, exploration of neuropsychological mechanisms, expansion of research to various contexts, development of optimal tax morale interventions, integration with new technologies, evaluation of long-term impacts, and analysis of interactions with broader fiscal policies.

Overall, this systematic review affirms the importance of tax morale as a determinant of tax revenue and highlights the potential of policies focusing on psychological and social aspects of tax compliance. By understanding and leveraging tax morale, policymakers can develop more holistic and effective approaches to increasing tax revenue, which ultimately supports economic and social development.

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