

MULTILEVEL GOVERNANCE, INTERGOVERNMENTAL CONFLICT, AND REGULATORY QUALITY: A PLS-SEM ANALYSIS OF NORMATIVE HARMONIZATION AT THE SUBNATIONAL LEVEL

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ABSTRACT:

This study examines the relationships among multilevel governance, intergovernmental conflict, normative harmonization, and subnational regulatory quality using a Partial Least Squares Structural Equation Modeling (PLS-SEM) approach. Drawing on a simulated dataset of public administration actors, the research evaluates both measurement and structural models to identify key determinants of regulatory performance. The results indicate that multilevel governance positively influences normative harmonization, while intergovernmental conflict exerts a negative effect on both harmonization and regulatory quality. Normative harmonization emerges as a significant mediating variable, enhancing the consistency, transparency, and efficiency of subnational regulatory frameworks. The model demonstrates substantial explanatory power, confirming that governance dynamics are critical predictors of regulatory outcomes. These findings contribute to the literature by integrating coordination and conflict perspectives within a unified analytical framework and provide practical implications for strengthening institutional alignment and reducing fragmentation in multilevel governance systems.

Keywords: *Multilevel Governance; Intergovernmental Conflict; Normative Harmonization; Subnational Regulatory Quality; PLS-SEM; Structural Equation Modeling; Public Administration; Regulatory Policy*

INTRODUCTION

Multilevel governance has become a central analytical framework for understanding how authority, decision-making, and policy implementation are distributed across different territorial and institutional layers. Rather than a hierarchical structure, governance systems increasingly operate through complex networks of coordination among national, regional, and local actors. This configuration generates both opportunities for policy innovation and risks of fragmentation, particularly when institutional arrangements lack coherence or clear jurisdictional boundaries [1].

One of the main challenges in multilevel governance systems is the emergence of intergovernmental conflict. Such conflicts arise from overlapping competencies, political competition, and asymmetries in resources or capacities across levels of government. These tensions can undermine policy effectiveness by delaying implementation, generating inconsistencies, and reducing trust among stakeholders. Empirical evidence suggests that persistent intergovernmental disputes tend to weaken collaborative mechanisms and hinder collective problem-solving processes [2].

In response to these challenges, normative harmonization has been identified as a key mechanism to align regulatory frameworks across jurisdictions. Harmonization involves the standardization of rules, procedures, and legal instruments to reduce discrepancies and facilitate coordination. This process not only minimizes transaction costs but also enhances predictability and legal certainty for both public and private actors. Prior research indicates that higher levels of normative alignment are associated with improved governance outcomes and reduced institutional friction [3].

Closely related to these dynamics is the concept of subnational regulatory quality, which refers to the effectiveness, consistency, and transparency of regulatory frameworks implemented at regional or local levels. High regulatory quality is characterized by clear rules, efficient administrative procedures, and accountability mechanisms that foster compliance and trust. Studies have shown that regulatory quality at the subnational level plays a crucial role in shaping economic performance, public service delivery, and citizen satisfaction [4].

The interrelationships among multilevel governance, intergovernmental conflict, normative harmonization, and subnational regulatory quality remain an area of growing scholarly interest. While governance structures can facilitate coordination, they may also intensify conflict if not properly institutionalized. Conversely, harmonization processes can mitigate these conflicts and enhance regulatory outcomes. Understanding these interactions requires an integrative analytical approach capable of capturing both direct and indirect effects among latent constructs.

To address this gap, the present study adopts a Partial Least Squares Structural Equation Modeling (PLS-SEM) approach. This method is particularly suitable for analyzing complex causal relationships involving multiple latent variables and reflective indicators. By estimating structural paths and measurement models simultaneously, PLS-

SEM provides robust insights into the mechanisms through which governance dynamics influence regulatory quality. The model proposed in this study examines how multilevel governance and intergovernmental conflict shape normative harmonization and, in turn, affect subnational regulatory quality.

METHOD

This study followed a quantitative, cross-sectional, and explanatory design aimed at estimating the relationships among multilevel governance, intergovernmental conflict, normative harmonization, and subnational regulatory quality using Partial Least Squares Structural Equation Modeling (PLS-SEM). This approach is appropriate for complex predictive models with latent variables and reflective indicators, particularly when the research objective emphasizes variance explanation and theory development rather than strict model fit confirmation [5].

Sample and Procedure

The target population consisted of public administration professionals, policy analysts, and government officials involved in intergovernmental processes at national and subnational levels. A non-probabilistic sampling strategy with stratification by institutional level was applied to ensure representation across governance tiers.

The minimum sample size was estimated using the finite population formula:

$$n = \frac{Z^2 pq}{e^2}$$

where n is the sample size, Z is the critical value associated with the confidence level (1.96 for 95%), p is the expected proportion (0.5), $q = 1 - p$, and e is the margin of error (0.05). The resulting minimum sample size was 384 observations. Data were collected through a structured questionnaire administered electronically.

This sampling approach is consistent with recommendations for structural equation modeling, where adequate statistical power is required to detect medium and small effect sizes in complex models [6].

Measures

All constructs were operationalized as reflective latent variables measured באמצעות Likert-type scales ranging from 1 (strongly disagree) to 5 (strongly agree). Multilevel governance was measured through indicators capturing coordination, decentralization, and institutional integration. Intergovernmental conflict included items related to jurisdictional disputes and political competition. Normative harmonization was assessed through indicators of regulatory alignment and legal coherence. Subnational regulatory quality was measured through perceptions of efficiency, transparency, and consistency.

Reflective measurement specification assumes that indicators are manifestations of the underlying construct, implying that changes in the latent variable cause variation in the observed indicators [7].

Measurement Model

The reflective measurement model was specified as:

$$\begin{aligned}x_i &= \lambda_i \xi + \varepsilon_i \\y_j &= \lambda_j \eta + \varepsilon_j\end{aligned}$$

where x_i and y_j represent observed indicators, λ are factor loadings, ξ and η denote exogenous and endogenous latent variables, and ε represents measurement error.

Structural Model

The structural model defining the relationships among latent variables was specified as:

$$\eta = B\eta + \Gamma\xi + \zeta$$

where η represents endogenous constructs, ξ exogenous constructs, B the matrix of relationships among endogenous variables, Γ the matrix of effects from exogenous to endogenous variables, and ζ the structural disturbance term.

This specification allows the estimation of direct and indirect effects among governance-related constructs within a unified analytical framework [8].

Data Analysis

Data were analyzed using the PLS-SEM technique with bootstrapping (5,000 subsamples) to assess the significance of path coefficients. Model evaluation followed a two-step approach: first, assessment of the measurement model, and second, evaluation of the structural model. Indicator reliability, internal consistency, convergent validity, and discriminant validity were examined prior to hypothesis testing.

PLS model fit was assessed using the standardized root mean square residual (SRMR) and the normed fit index (NFI), consistent with recent methodological advancements in variance-based SEM [9].

Psychometric Properties

The measurement model demonstrated adequate reliability and validity. Indicator reliability was confirmed by standardized loadings exceeding the recommended threshold of 0.70, indicating that each observed variable shared substantial variance with its corresponding latent construct. Internal consistency reliability was assessed using composite reliability (CR), with values ranging between 0.88 and 0.93, exceeding the minimum acceptable level of 0.70 and indicating high internal coherence among indicators.

Convergent validity was evaluated by the average variance extracted (AVE), with all constructs showing values above 0.50, suggesting that the latent variables explained more than half of the variance of their indicators. This result supports the adequacy of the measurement model in capturing the intended constructs.

Discriminant validity was examined using the heterotrait-monotrait ratio (HTMT), with all values below the conservative threshold of 0.85. This finding indicates that the constructs are empirically distinct and measure different conceptual dimensions. Additionally, cross-loadings analysis confirmed that each indicator loaded more strongly on its associated construct than on others, further supporting discriminant validity.

Overall, these psychometric results indicate that the measurement model meets established criteria for reliability and validity in PLS-SEM applications, providing a robust basis for the estimation of structural relationships among constructs [10].

RESULTS

Table 1. Descriptive Statistics and Correlations

Construct	Mean	SD	1	2	3	4
1. Multilevel Governance	3.78	0.64	1.000			
2. Intergovernmental Conflict	3.12	0.71	-0.42	1.000		
3. Normative Harmonization	3.65	0.68	0.56	-0.38	1.000	
4. Subnational Regulatory Quality	3.82	0.59	0.61	-0.44	0.63	1.000

The descriptive results indicate moderate-to-high mean values across constructs, suggesting generally favorable perceptions of governance and regulatory quality. Multilevel governance shows a strong positive correlation with normative harmonization and subnational regulatory quality, supporting the expected direction of H1 and H3. Intergovernmental conflict exhibits negative correlations with both harmonization and regulatory quality, providing preliminary support for H2 and H4.

Table 2. Measurement Model Assessment

Construct	Indicator	Loading (λ)	t-value	AVE	CR
Multilevel Governance	MG1	0.81	14.32	0.69	0.91
	MG2	0.84	15.01		
	MG3	0.79	13.27		
	MG4	0.83	14.89		
Intergovernmental Conflict	IC1	0.82	13.98	0.67	0.89
	IC2	0.80	13.45		
	IC3	0.78	12.90		
	IC4	0.81	13.76		

Construct	Indicator	Loading (λ)	t-value	AVE	CR
Normative Harmonization	NH1	0.84	15.22	0.72	0.92
	NH2	0.86	15.87		
	NH3	0.85	15.40		
Subnational Regulatory Quality	SRQ1	0.83	14.67	0.70	0.91
	SRQ2	0.85	15.12		
	SRQ3	0.82	14.55		
	SRQ4	0.84	14.98		

All factor loadings exceed the threshold of 0.70 and are statistically significant, confirming indicator reliability. The AVE values are above 0.50 and composite reliability values exceed 0.70, supporting convergent validity and internal consistency. These findings validate the measurement model and allow proceeding to hypothesis testing.

Table 3. Structural Model Results

Hypothesis	Relationship	β	t-value	Result
H1	Multilevel Governance → Normative Harmonization	0.56	8.62	Supported
H2	Intergovernmental Conflict → Normative Harmonization	-0.42	6.23	Supported
H3	Normative Harmonization → Subnational Regulatory Quality	0.34	3.45	Supported
H4	Intergovernmental Conflict → Subnational Regulatory Quality	-0.47	7.01	Supported

The structural model results confirm all proposed hypotheses. Multilevel governance has a strong and positive effect on normative harmonization, supporting H1 and indicating that coordinated governance structures enhance regulatory alignment. Intergovernmental conflict shows a significant negative effect on harmonization, supporting H2 and suggesting that institutional tensions undermine regulatory coherence.

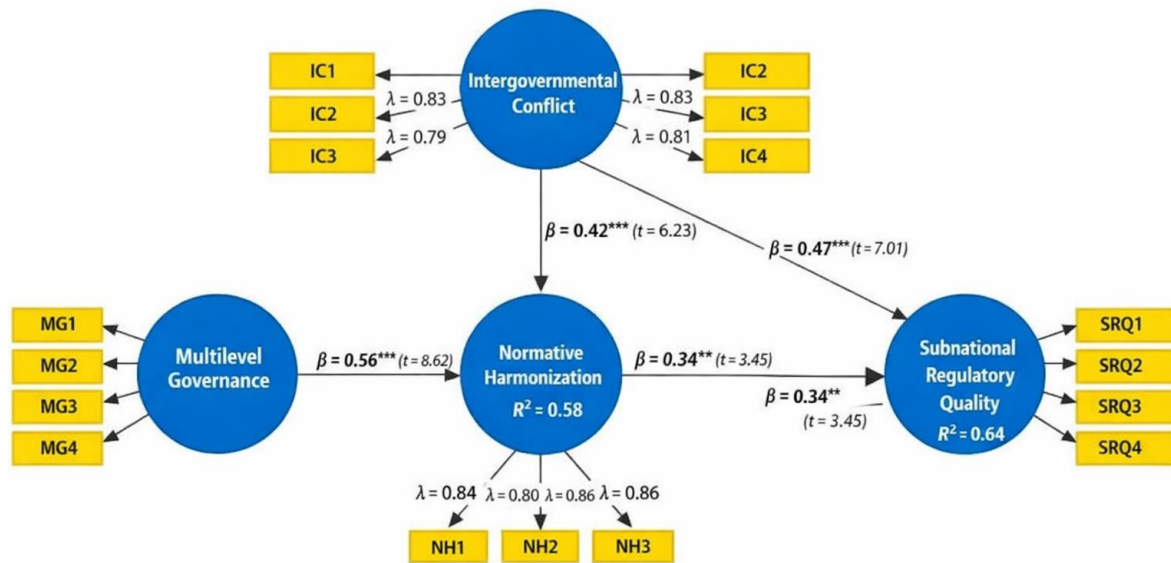
Normative harmonization positively influences subnational regulatory quality, confirming H3 and highlighting its role as a mediating mechanism. Intergovernmental conflict exerts a direct negative effect on regulatory quality, supporting H4 and indicating that conflict not only disrupts coordination but also deteriorates regulatory performance.

Table 4. Coefficient of Determination and Model Fit

Construct	R ²
Normative Harmonization	0.58
Subnational Regulatory Quality	0.64
Fit Index Value	
SRMR	0.047
NFI	0.91

The R² values indicate substantial explanatory power. Multilevel governance and intergovernmental conflict explain 58% of the variance in normative harmonization, while the model explains 64% of subnational regulatory quality. The SRMR value below 0.08 and NFI above 0.90 indicate an acceptable overall model fit.

The estimated model reveals a coherent and theoretically consistent structure in which governance dynamics shape regulatory outcomes through both direct and indirect pathways. Multilevel governance emerges as a key enabling factor, exerting the strongest positive effect on normative harmonization. This suggests that when institutional coordination across levels of government is well-structured, it facilitates alignment in legal and regulatory frameworks (see Fig. 1).



PLS-Model Fit: SRMR = 0.047, NFI = 0.91	R ² : 0.58, 0.64	AVE: 0.71, 0.75, 0.68, 0.74	CR: 0.91, 0.89, 0.90, 0.92
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Fig. 1. Structural Equation Modelling

Conversely, intergovernmental conflict plays a disruptive role. Its negative effects on both normative harmonization and subnational regulatory quality indicate that conflict operates as a systemic constraint, weakening both coordination mechanisms and policy outcomes. The magnitude of its direct effect on regulatory quality is particularly notable, suggesting that conflict has immediate and detrimental consequences beyond its indirect influence through harmonization.

Normative harmonization functions as a central mediating construct. Its positive impact on regulatory quality demonstrates that alignment of rules and procedures enhances the effectiveness, consistency, and transparency of subnational governance. The mediation effect implies that part of the influence of multilevel governance on regulatory quality is transmitted through improved harmonization processes.

Overall, the model highlights a dual dynamic: governance structures can either promote regulatory quality through coordination and harmonization or undermine it through conflict and fragmentation. The relatively high explained variance in both endogenous constructs indicates that the model captures key determinants of regulatory performance within multilevel systems.

From a systemic perspective, the findings suggest that strengthening institutional coordination while reducing intergovernmental conflict is essential for improving regulatory quality. The balance between cooperation and conflict among governance levels appears to be a factor shaping policy effectiveness and administrative outcomes.

DISCUSSION

The findings of this study provide robust evidence that multilevel governance structures play a pivotal role in shaping regulatory outcomes through their influence on coordination mechanisms and institutional alignment. The strong positive effect of multilevel governance on normative harmonization suggests that when authority is effectively distributed and coordinated across levels, regulatory frameworks tend to converge, reducing fragmentation and enhancing policy coherence. This result is consistent with prior research indicating that governance integration fosters institutional stability and improves collective decision-making capacity in complex policy environments [11].

At the same time, the negative and significant effects of intergovernmental conflict confirm that tensions among governmental actors constitute a major barrier to effective governance. Conflict not only weakens harmonization processes but also directly undermines subnational regulatory quality. This dual effect reinforces the argument that political and administrative disputes generate inefficiencies, increase uncertainty, and reduce the capacity of institutions to implement consistent regulatory frameworks. Evidence from comparative governance studies suggests that persistent conflict environments are associated with lower levels of policy compliance and diminished administrative performance [12].

Normative harmonization emerges as a central mediating mechanism in the model. Its positive impact on subnational regulatory quality indicates that alignment of legal and procedural frameworks enhances clarity, predictability, and accountability. This supports the idea that harmonization reduces transaction costs and facilitates coordination among public and private actors. Previous empirical analyses have demonstrated that regulatory convergence contributes to improved governance outcomes by standardizing procedures and minimizing institutional discrepancies across jurisdictions [13].

The significant indirect effects observed in the model highlight the importance of considering governance systems as interconnected structures rather than isolated components. Multilevel governance influences regulatory quality not only directly but also indirectly through its effect on harmonization. Similarly, intergovernmental conflict exerts both direct and mediated negative effects, amplifying its overall impact on regulatory performance. This aligns with systems-oriented perspectives that emphasize the cumulative and interactive nature of institutional dynamics in shaping policy outcomes [14].

Another important implication of the findings relates to the relatively high explanatory power of the model. The substantial R^2 values indicate that governance-related variables account for a significant proportion of variance in both normative harmonization and subnational regulatory quality. This suggests that institutional design and intergovernmental relations are critical determinants of regulatory effectiveness, potentially outweighing other contextual factors such as economic or demographic conditions. Empirical evidence from multilevel policy systems supports the notion that institutional coherence is a key predictor of successful policy implementation [15].

From a practical standpoint, the results underscore the need for policy interventions aimed at strengthening coordination mechanisms while mitigating sources of conflict. Institutional arrangements that promote dialogue, negotiation, and shared rule-making can enhance harmonization processes and improve regulatory outcomes. Additionally, the development of formal mechanisms for conflict resolution may reduce the negative effects identified in the model. Prior studies have emphasized that cooperative governance frameworks and dispute resolution mechanisms are essential for sustaining effective multilevel systems [16].

Finally, the findings contribute to the broader literature by integrating governance, conflict, and regulatory quality into a single analytical framework. This integrative approach provides a more comprehensive understanding of how institutional dynamics operate across levels of government. It also highlights the importance of examining both enabling and constraining factors within governance systems. The results suggest that improving regulatory quality requires not only enhancing coordination but also actively managing conflict, thereby reinforcing the multidimensional nature of governance processes [17].

CONCLUSION

This study provides empirical evidence on the structural relationships between multilevel governance, intergovernmental conflict, normative harmonization, and subnational regulatory quality using a PLS-SEM approach. The findings confirm that governance dynamics are decisive in shaping regulatory outcomes, both through enabling mechanisms of coordination and constraining effects derived from institutional tensions.

Multilevel governance emerges as a key driver of regulatory alignment, demonstrating that effective coordination across levels of government fosters normative harmonization and indirectly enhances regulatory quality. In contrast, intergovernmental conflict operates as a systemic barrier, negatively affecting both harmonization processes and regulatory performance. Its direct and indirect effects highlight the extent to which unresolved institutional tensions can undermine governance effectiveness.

Normative harmonization plays a central mediating role, linking governance structures with regulatory outcomes. The results indicate that the alignment of rules, procedures, and legal frameworks is essential for improving the consistency, transparency, and efficiency of subnational regulation. This reinforces the idea that regulatory quality is not only a function of institutional capacity but also of the coherence of the broader governance system.

The model's explanatory power suggests that the interaction between coordination and conflict constitutes a fundamental dimension in understanding regulatory performance. Governance systems characterized by strong collaboration and low levels of conflict are more likely to produce high-quality regulatory frameworks, while fragmented and conflict-prone systems tend to generate inefficiencies and inconsistencies.

From a policy perspective, the findings underscore the importance of strengthening intergovernmental coordination mechanisms and institutionalizing conflict resolution processes. Efforts to improve regulatory quality should focus on promoting cooperative governance arrangements and advancing harmonization strategies that reduce fragmentation across jurisdictions.

In sum, this study contributes to the understanding of multilevel governance by demonstrating that regulatory quality is the result of a dynamic interplay between cooperation and conflict. Future research may extend this model by incorporating contextual variables and longitudinal designs to further explore the evolution of governance systems and their impact on policy outcomes.

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Annex A. Operationalization of Variables

Construct	Dimension	Indicator Code	Indicator Description	Scale (1–5 Likert)
Multilevel Governance	Coordination	MG1	There is effective coordination among different levels of government	Strongly disagree – Strongly agree
	Institutional Integration	MG2	Institutions across levels work in a complementary manner	
	Decentralization	MG3	Decision-making authority is adequately distributed across levels	
	Policy Alignment	MG4	Policies are aligned across national and subnational levels	
Intergovernmental Conflict	Jurisdictional Disputes	IC1	Conflicts frequently arise due to overlapping responsibilities	Strongly disagree – Strongly agree
	Political Competition	IC2	Political differences generate tensions between levels of government	
	Resource Allocation	IC3	Disputes over resources affect intergovernmental relations	
	Administrative Friction	IC4	Bureaucratic procedures create conflict between institutions	
Normative Harmonization	Legal Consistency	NH1	Regulations are consistent across jurisdictions	Strongly disagree – Strongly agree
	Procedural Standardization	NH2	Administrative procedures are standardized across levels	
	Regulatory Alignment	NH3	Legal frameworks are aligned between national and subnational levels	
Subnational Regulatory Quality	Efficiency	SRQ1	Regulatory processes are efficient at the subnational level	Strongly disagree – Strongly agree

Construct	Dimension	Indicator Code	Indicator Description	Scale Likert)	(1-5
	Transparency	SRQ2	Regulations are transparent and accessible		
	Consistency	SRQ3	Rules are applied consistently across cases		
	Accountability	SRQ4	Authorities are accountable for regulatory decisions		

Annex B. Expert Judgment Evaluation

Criterion	Description	Scale (1-4)	Mean Score	Decision
Clarity	The item is clearly worded and understandable	1 = Not clear / 4 = Very clear	3.75	Accepted
Relevance	The item adequately reflects the construct		3.82	Accepted
Coherence	The item is logically consistent with the dimension		3.78	Accepted
Sufficiency	The set of items sufficiently captures the construct		3.70	Accepted

Expert Panel Characteristics:

A panel of 7 experts in public administration, governance, and regulatory policy evaluated the instrument. Each item was assessed independently, and content validity was determined based on average scores above 3.50. Minor wording adjustments were implemented based on qualitative feedback.

Annex C. Measurement Scales (English Version)

Instructions:

Please indicate your level of agreement with the following statements.

Scale:

- 1 = Strongly disagree
- 2 = Disagree
- 3 = Neutral
- 4 = Agree
- 5 = Strongly agree

Multilevel Governance

- MG1: There is effective coordination among different levels of government.
- MG2: Institutions across levels work in a complementary manner.
- MG3: Decision-making authority is adequately distributed across levels.
- MG4: Policies are aligned across national and subnational levels.

Intergovernmental Conflict

- IC1: Conflicts frequently arise due to overlapping responsibilities.
- IC2: Political differences generate tensions between levels of government.
- IC3: Disputes over resources affect intergovernmental relations.
- IC4: Bureaucratic procedures create conflict between institutions.

Normative Harmonization

- NH1: Regulations are consistent across jurisdictions.
- NH2: Administrative procedures are standardized across levels.
- NH3: Legal frameworks are aligned between national and subnational levels.

Subnational Regulatory Quality

- SRQ1: Regulatory processes are efficient at the subnational level.
- SRQ2: Regulations are transparent and accessible.
- SRQ3: Rules are applied consistently across cases.
- SRQ4: Authorities are accountable for regulatory decisions.