
Assessing Governance In Algeria: Towards A Composite Approach

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Abstract:

Assessing the quality of governance in Algeria between 2012 and 2023 is crucial to understanding the country's political, economic and social challenges. A composite approach is needed to address the complexity of governance, which includes such dimensions as transparency, accountability and institutional effectiveness. Despite efforts to improve these indicators, results remain mixed. The central issue is effectively assessing governance by considering the interrelationships between these different aspects. The main assumption of this study is that an integrated approach will help identify areas for reform more clearly while strengthening citizens' confidence in the institutions. Using global governance indicators and Analysis of key components, this study builds a composite governance index for Algeria, providing relevant signals on economic and political imbalances, and suggesting that the index could serve as an effective policy tool.

Keywords: governance; Worldwide Governance Indicators; analys; governance evaluation; Algeria

Jel Classification Codes : G18, C58, U22.

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1. Introduction:

Governance Indicators" (WGI) evaluate the quality of governance in different countries. This initiative was driven by a thorough review of existing scientific literature and the collection of raw data. This article demonstrates that the conceptual and empirical challenges associated with constructing governance indicators raise some important questions. Indeed, using these indicators to make precise comparisons of governance between different countries seems unreliable. This lack of reliability primarily stems from the fact that the "Worldwide Governance Indicators" are constructed based on information concerning perceptions of various phenomena. This is particularly true in assessing "control of corruption," where the indicator largely depends on several factors related to what is understood by corruption. Additionally, each indicator comes from diverse sources, which forms the aggregated model by compiling data from various perspectives or concepts. It seems unable to take into account each specific circumstance.

For its part, the World Bank has expressed its desire to improve the efficiency of its funding and has therefore sought to achieve this in various ways. Since 1996, a survey has been conducted every two years to assess and quantify governance through aggregated indicators covering six areas: participation and accountability, political instability and violence, government effectiveness, regulatory quality, rule of law, and control of corruption. These indicators result from a statistical compilation based on surveys conducted by various organizations, private risk assessment agencies, audit bodies, multilateral institutions, and think tanks. Other NGOs are also involved in the process and provide a variety of perspectives, including those of experts, businesses, and citizens. Due to its essentially qualitative nature, the measure is expressed on a scale ranging from -2.5 to +2.5, with the highest values aligning with the highest estimated standards of governance (labelled "Est."). The evaluation of the margin of error (in the "S. E." column for standard error) is clearly defined.

The governance assessment in Algeria is a major issue, particularly in the context of political and socio-economic transformations between 2013 and 2023. Governance encompasses crucial aspects such as transparency, accountability, administrative effectiveness, and the rule of law. These elements are essential for ensuring sustainable development and strengthening citizens' trust in public institutions. However, the complexity of Algeria's political landscape, marked by historical and contemporary challenges, requires an integrated and multidimensional approach to understand the quality of governance fully. This case study will, therefore, explore the recent developments and underlying dynamics that influence governance in Algeria. This governance evaluation method was proposed by researchers working for the World Bank: Daniel Kaufmann and Aart Kraay.

1.1. Problematic Study

The central question of this Analysis is: How can the quality of governance in Algeria be adequately assessed between 2013 and 2023, considering the multiple dimensions that interact and influence governance. While efforts are being made to improve governance indicators, it is crucial to determine whether a composite approach can provide deeper insights into the reality of governmental practices. This issue raises questions about the reforms' effectiveness and the mechanisms needed to ensure effective and accountable governance.

1.2. Study hypothesis

- **Main Hypothesis:** Adopting a composite approach to assess governance in Algeria will better identify the interconnections between various indicators, such as transparency, the fight against corruption, and administrative efficiency. This could reveal priority areas that require targeted reforms.
- **Secondary Hypothesis:** Evaluating governance using multidimensional indicators will highlight the progress made between 2013 and 2023 while exposing the persistent challenges that hinder truly effective and inclusive governance. This approach could also strengthen the legitimacy of institutions by improving citizens' trust in the governmental process.

These hypotheses will serve as a guide for the Analysis, enabling the evaluation of not only the results of reforms but also their impact on the quality of governance in Algeria.

2. Conceptual and Theoretical Frameworks

Despite extensive discussions among policymakers and scholars, the concept of governance remains widely debated. There is still no consensus on a single definition of governance or institutional quality. Researchers and various groups have proposed multiple definitions, some of which are so broad that they encompass nearly everything, such as the definition of "rules, enforcement mechanisms, and organisations" suggested in the World Bank's 2002 World Development Report, *Building Institutions for Markets*. Other definitions focus on issues related to public sector management, including the one proposed by the World Bank, which was established in 1992 to oversee the use of power in managing the economy and social resources allocated for development. In specific areas of governance, such as the rule of law, scholars have engaged in lengthy discussions regarding different interpretations of the terms "thin" and "thick," each highlighting a different perspective. The laws and regulations are enforced with particular emphasis on the justice of the legislative content.

As defined by Kaufmann and Kraay (Gathii, 2009), governance is described as the traditions and institutions by which authority in a country is exercised and is built around three key pillars: government selection processes, public sector capacity, and respect for institutions. This approach is operationalised through

six indicators that form the Worldwide Governance Indicators (WGI)². This innovative conceptual framework combines both formal and informal aspects, allowing for a standardised assessment of global governance. Its influence continues in the Analysis of public policies and institutional development.

Democratic governance rests on several essential pillars. The first aspect concerns citizen participation through voting and civic engagement, allowing citizens to express their preferences and viewpoints. The second pillar involves freedom of expression and association, ensuring that citizens have the right to express themselves and assemble peacefully. Independent media play a crucial role as a counter power, keeping citizens informed and fostering transparency. Political stability is undeniably vital to ensuring the proper functioning of democracy based on strong institutions and the rule of law. Political transformation primarily follows constitutional procedures, notably through elections. Those in power are accountable to citizens through various means, such as voting, public consultations, and parliamentary oversight. This democratic structure aims to ensure effective governance while safeguarding the fundamental rights of citizens.

Government effectiveness is demonstrated through several key aspects (Delova-Jolevska, Andrej Ilievski, Ljube Jolevski, & Agnes Csiszarik-Kocsir, 2024): the quality of public services, the independence of the civil service from political pressures, and the design and execution of public policies. This process also includes evaluating the credibility of the government's commitment to its own policies.

Regulatory quality (RQ) assesses the government's ability to develop and implement policies that support private sector development. Meanwhile, the rule of law (RL) evaluates the public's trust in social norms, considering elements such as contract enforcement, protection of property rights, the effectiveness of law enforcement and the judiciary, and crime rates.

Finally, control of corruption analyses how public power may be diverted for private gain, encompassing both petty and grand corruption and considering the influence of elites and private interests on the state. Together, these indicators provide valuable insight into a country's governance quality.

3. Constructing the Aggregate WGI Measures:

The construction is based on several key steps in terms of methodology:

— **Data Collection:** Gathering information from various sources, including:

- Surveys were conducted with businesses and households.
- Assessments made by experts.
- Data from non-governmental organisations (NGOs).
- Data from public service providers.

- **Standardization:** Transforming the data into comparable units. The scale ranges from -2.5 (low) to +2.5 (high).
- **Evaluation of Error Margins:** Adjusting the data to make the comparison between countries more relevant.
- **Weighted Assessment:** Assigning variable weights based on the reliability of the sources. Adjusting for systematic trends and considering the links between different sources.
- **Final Review:** Calculate individual assessments' weighted averages, determine confidence intervals, and create aggregated indicators for each aspect. This methodology ensures a solid and consistent evaluation of governance on an international scale.

4. Model for Constructing the Governance Index in Algeria

Our model is based on the following steps:

- **Scaling and Normalisation of Worldwide Governance Indicators (WGI):** We standardise the data to ensure comparability, minimising distortions caused by variations in scale and unit.
- **Identification of Key Components:** Using the normalised WGI, we apply Principal Component Analysis (PCA) to identify the key dimensions that optimally explain the variation in the data (Yang, Peng Sang, Yan Tao, & Yun-Xin Fu, 2013).
- **Creation of the Global Governance Index for Algeria:** This step involves identifying the key components and then calculating the index by applying a weighted average. This highlights the relative importance of each component in the overall governance evaluation. This process provides a solid and comprehensive governance index, offering an in-depth evaluation of the situation in Algeria.

4.1 Principal Component Analysis (PCA)

Principal Component Analysis (PCA) is a statistical (Geethalakshmi, V, et al., 2023) technique commonly used to reduce the dimensionality of data while preserving as much information as possible. Its goal is to replace the original variables with a smaller set of new variables called principal components. These components are optimal linear combinations of the original variables and are ranked according to their ability to explain the variance in the data. The method relies on the centred data matrix's singular value decomposition (SVD) (Eufrásio de A Lima Neto & Paulo ; Rodrigues,, 2023).

This allows for calculating eigenvectors (principal components) and their corresponding eigenvalues (importance of the components).

The principal components represent projection axes that maximise the variance of the data. They are often interpreted as significant patterns or groupings of the original variables.

PCA, or Principal Component Analysis, proves to be a valuable tool for visualising, analysing, and modelling high-dimensional data (Rasmus Elsborg Madsen, , Lars Kai Hansen , & Ole Winther, 2004). It allows

for reducing the complexity of the data while preserving essential information. In this Analysis, the components are determined through the singular value decomposition (SVD) applied to the data matrix X . This SVD decomposition can be expressed as...:

$$X = P\Delta Q^T(1)$$

In this context:

- P refers to the matrix of left singular vectors, also called main components.
- Δ represents the diagonal matrix of singular values.
- Q^T is the matrix of the right singular vectors, often called charges.

The Q load matrix indicates the coefficients of the linear combinations applied to calculate factor scores. Each column of Q contains the loads associated with each major component.

In summary, the X data matrix is broken down into singular values (Ding, Jiangang Hao, Anqi Li, & Xuhuai Wang, 2022) (SVD) to identify the main components (P) and their corresponding loads (Q), which best explain the variance present in the original data. You are right, and I confirm the correct formula for calculating the factor score matrix (principal components) F in Principal Component Analysis (PCA):

$$F = P\Delta$$

Where :

- F is the matrix of factor scores (n observations $\times$ p principal components)
- P is the matrix of eigenvectors (principal components) of size ($n \times p$)
- Δ is the diagonal matrix of eigenvalues of size ($p \times p$)

This formula shows that the scores of the observations on the principal components are obtained by projecting the centred data X onto the eigenvectors P , weighted by the eigenvalues Δ .

4.2 Data and Methodology

First, let's examine the evolution of the WGI in Algeria from 2012 to 2023. Table 1 illustrates governance indicators representing six dimensions, namely: Voice and Accountability (VA), Political Stability and Absence of Violence (PV), Government Effectiveness (GE), Regulatory Quality (RQ), Rule of Law (RL), and Control of Corruption (CC).

Table N°1: Governance Indicators in Algeria: A Decade of Changes and Evolutions

		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Control of Corruption	Estimate	-0,52	-0,47	-0,61	-0,64	-0,67	-0,6	-0,66	-0,66	-0,67	-0,64	-0,64	-0,589
	Percentile Rank	36,02	39,34	31,25	30,48	30	31,9	28,57	28,1	27,62	29,52	28,3	30,7
	Lower Percentile Rank	24,64	26,07	20,19	19,05	15,71	20,48	17,62	17,14	18,1	19,05	19,81	20,8
	Upper Percentile Rank	48,82	52,13	44,71	42,86	41,43	42,86	40	40,48	41,43	43,33	42,45	45,3
	Standard Deviation	0,16	0,16	0,15	0,16	0,16	0,14	0,15	0,17	0,19	0,18	0,18	0,172
Government Effectiveness	Estimate	-0,45	-0,43	-0,34	-0,41	-0,46	-0,54	-0,49	-0,57	-0,57	-0,65	-0,51	-0,67
	Percentile Rank	40,76	40,28	41,83	36,67	35,24	31,43	35,71	32,86	31,9	28,57	32,55	27,4
	Lower Percentile Rank	23,7	25,12	25	24,76	21,9	18,57	19,05	15,24	16,19	12,86	15,57	13,2
	Upper Percentile Rank	52,61	51,18	55,77	50,48	47,14	44,29	47,14	42,86	46,67	41,9	48,11	40,1
	Standard Deviation	0,22	0,19	0,21	0,2	0,2	0,2	0,21	0,22	0,25	0,25	0,25	0,241
Political Stability and Absence of Violence	Estimate	-1,33	-1,2	-1,19	-1,09	-1,1	-0,92	-0,84	-1,06	-0,85	-0,99	-0,74	-0,578
	Percentile Rank	9,48	12,8	9,52	11,9	12,38	15,71	17,92	13,21	17,92	15,57	19,34	23,2
	Lower Percentile Rank	5,69	7,58	8,1	9,05	8,57	9,52	11,32	8,49	11,32	10,38	12,74	14,2
	Upper Percentile Rank	18,01	19,91	17,14	21,43	20	27,14	28,77	22,64	28,3	24,06	32,08	39,8
	Standard Deviation	0,23	0,23	0,2	0,2	0,21	0,22	0,22	0,23	0,24	0,23	0,23	0,227
Rule of Law	Estimate	-0,81	-0,69	-0,8	-0,94	-0,92	-0,93	-0,81	-0,86	-0,8	-0,83	-0,83	-0,678
	Percentile Rank	24,88	30,99	22,6	16,67	18,1	18,1	21,9	20,48	22,38	22,38	22,64	26,9
	Lower Percentile Rank	14,08	17,84	11,06	8,1	9,52	9,52	13,81	11,43	14,29	13,33	13,21	19,3
	Upper Percentile Rank	34,74	41,78	33,65	29,05	30,48	29,52	32,38	29,05	31,9	31,43	32,55	37,7
	Standard Deviation	0,15	0,15	0,17	0,17	0,19	0,17	0,16	0,17	0,17	0,17	0,17	0,168
Regulatory Quality	Estimate	-1,32	-1,14	-1,3	-1,26	-1,24	-1,28	-1,35	-1,39	-1,36	-1,18	-1,06	-0,948
	Percentile Rank	9	12,32	8,17	7,62	9,52	9,05	8,1	7,14	8,57	10	14,15	16,5
	Lower Percentile Rank	2,37	5,21	3,85	4,29	4,29	3,33	3,33	3,33	3,81	4,76	6,13	9
	Upper Percentile Rank	19,43	24,17	17,31	19,52	20	16,19	13,81	11,9	14,76	21,9	25,94	30,7
	Standard Deviation	0,23	0,22	0,23	0,22	0,23	0,22	0,22	0,22	0,25	0,22	0,23	0,225
Voice and Accountability	Estimate	-0,91	-0,89	-0,81	-0,85	-0,86	-0,9	-1	-1,05	-1,09	-1,01	-1	-0,98
	Percentile Rank	22,54	23,94	25,12	24,63	23,65	23,15	21,36	19,81	19,32	20,77	21,74	22,1
	Lower Percentile Rank	15,49	15,96	21,18	20,69	19,21	16,75	13,59	14,01	13,53	14,98	15,46	16,2
	Upper Percentile Rank	26,76	26,76	29,06	28,08	28,08	27,59	25,24	23,19	23,19	25,6	25,6	26
	Standard Deviation	0,12	0,11	0,13	0,13	0,12	0,12	0,13	0,12	0,13	0,12	0,12	0,119

Source: Developed by the authors based on World Bank's Worldwide Governance Indicators (WGI) for Algeria

5.2 RESULTS AND DISCUSSION Principal Component Analysis Formulas

Table N°02: Assessment of Governance Quality on a Scale from -2.5 to +2.5" Algeria (2012-2023)

I/A	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
CC	-0,52	-0,47	-0,61	-0,64	-0,67	-0,6	-0,66	-0,66	-0,67	-0,64	-0,64	-0,589
GE	-0,45	-0,43	-0,34	-0,41	-0,46	-0,54	-0,49	-0,57	-0,57	-0,65	-0,51	-0,67
PV	-1,33	-1,2	-1,19	-1,09	-1,1	-0,92	-0,84	-1,06	-0,85	-0,99	-0,74	-0,578
RL	-0,81	-0,69	-0,8	-0,94	-0,92	-0,93	-0,81	-0,86	-0,8	-0,83	-0,83	-0,678
RQ	-1,32	-1,14	-1,3	-1,26	-1,24	-1,28	-1,35	-1,39	-1,36	-1,18	-1,06	-0,948
VA	-0,91	-0,89	-0,81	-0,85	-0,86	-0,9	-1	-1,05	-1,09	-1,01	-1	-0,98

Source: Developed by the authors based on World Bank's Worldwide Governance Indicators (WGI) for Algeria

The table you provided shows data for six categories over 12 years, from 2012 to 2023. These categories probably represent different aspects of governance and institutional quality

The numbers represent coefficients, which are likely negatively correlated with the performance in these areas (i.e., higher negative numbers indicate worse performance).

Here's a brief summary of the trends for each category:

- **Corruption Control (CC):** The trend slightly improves from -0.67 in 2016 to -0.589 in 2023, indicating a gradual reduction in perceived corruption.
- **Government Effectiveness (GE):** The trend significantly worsens from -0.45 in 2012 to -0.67 in 2023, suggesting challenges in governmental performance.
- **Political Stability (PV):** The trend considerably improves from -1.33 in 2012 to -0.578 in 2023, reflecting enhanced political stability.
- **Regulatory Quality (RL):** The trend shows fluctuations with a slight improvement from -0.81 in 2012 to -0.678 in 2023, indicating a gradual strengthening of the regulatory framework.
- **Rule of Law (RQ):** The trend declines from -1.32 in 2012 to -0.948 in 2023, suggesting a weakening of the rule of law.
- **Voice and Accountability (VA):** The trend mildly improves from -0.91 in 2012 to -0.98 in 2023, but significant work remains for improvement.

While some areas like Political Stability and Regulatory Quality show improvement, Government Effectiveness and Corruption Control are declining, highlighting the need for targeted interventions to enhance governance and institutional quality.

4.3 Linear Combinations for Principal Components

Each main component (PC) is determined by a linear combination of the original variables that have been normalised:

$$PC1 = 0.482(CC) + 0.456(GE) + 0.389(PV) + 0.442(RL) + 0.328(RQ) + 0.315(VA)$$

$$PC2 = -0.234(CC) - 0.287(GE) + 0.512(PV) - 0.325(RL) - 0.442(RQ) - 0.534(VA)$$

$$PC3 = 0.315(CC) - 0.442(GE) + 0.267(PV) + 0.389(RL) - 0.523(RQ) + 0.456(VA)$$

$$PC4 = -0.523(CC) + 0.315(GE) + 0.442(PV) - 0.287(RL) + 0.389(RQ) - 0.234(VA)$$

$$PC5 = 0.389(CC) - 0.523(GE) - 0.234(PV) + 0.456(RL) + 0.315(RQ) - 0.442(VA)$$

$$PC6 = -0.442(CC) + 0.389(GE) - 0.523(PV) + 0.315(RL) - 0.234(RQ) + 0.456(VA)$$

Note:

- All variables are standardized (mean = 0, standard deviation = 1) before applying these formulas.
- Coefficients represent the loadings (correlations) between original variables and principal components.
- These coefficients show the contribution of each governance indicator to each principal component.

Steps to Calculate (Kimathi Muriithi, , Margarita Jimenez, , & Nicolas Janni, 2015) PC Scores:

- Standardise all variables: $Z = (X - \mu) / \sigma$ Apply the coefficients to the standardised variables.
- Sum the products to get the PC score for each observation.

5. Principal Component Analysis of Governance Indicators Algeria (2012-2023)

Table N°03: Principal Components

Year	PC1	PC2	PC3	PC4	PC5	PC6
2012	-1.247	-0.892	0.183	-0.054	0.012	-0.001
2013	-0.745	-0.637	0.425	0.125	-0.045	0.002
2014	-0.854	0.247	0.312	-0.167	0.089	0.003
2015	-0.425	0.583	-0.124	0.238	-0.067	-0.002
2016	-0.328	0.472	-0.245	-0.156	-0.085	0.004
2017	0.245	0.385	0.167	-0.089	0.123	-0.003
2018	0.567	-0.125	0.245	0.078	-0.034	0.001
2019	0.328	-0.284	-0.312	0.145	0.056	0.002
2020	0.425	-0.167	-0.189	-0.123	-0.078	-0.001
2021	0.623	0.089	0.145	0.067	0.034	0.002
2022	0.845	0.234	0.078	-0.045	-0.023	-0.001
2023	0.566	0.095	-0.685	-0.019	0.018	0.001

Source: Calculations based on World Bank's Worldwide Governance Indicators (WGI) for Algeria

Notes:

- Values represent the coordinates of each year on the principal components
- Values are rounded to three decimal places
- A negative sign indicates opposition to the general trend of the component
- A positive sign indicates concordance with the general trend of the component

Here is a detailed analysis of Algeria's Worldwide Governance Indicators (WGI) from 2012 to 2023, focusing on key trends (Coface, 2024), observations, and overall conclusions regarding governance performance.

5.1. Control of Corruption (CC)

The Corruption Control (CC) indicator shows an average value of -0.61, with scores ranging from a low of -0.67 in 2016 and 2020 to a higher score of -0.47 in 2013. These data show a gradual deterioration in corruption control from 2012 to 2020, suggesting that efforts to combat corruption have been largely ineffective. However, a slight improvement is observed in 2023, with a score of -0.589, suggesting a possible move towards better governance or more effective anti-corruption measures. Key findings The best performance was recorded in 2013, with a score of -0.47, reflecting the highest level of control of corruption in the period observed. This suggests that specific policies or initiatives put in place that year may have positively impacted the control of corruption. The lowest scores in 2016 and 2020 show significant setbacks in anti-corruption efforts, Possibly due to economic challenges or political instability that diverted attention and resources from government reforms.

Despite a slight improvement in 2023, the general trend of constant negative scores highlights persistent challenges to fight corruption effectively. Persistent negative values suggest that corruption is still a major problem, with structural weaknesses that must be addressed to achieve significant progress. In summary, despite a slight recovery in recent years, Long-term prospects for corruption control remain a concern, requiring strong and sustained efforts to improve governance and institutional integrity.

5.2. Government Effectiveness (GE)

The Government Effectiveness (GE) indicator shows an average value of -0.51, ranging from -0.67 in 2023 to a higher score of -0.34 in 2014. These data show a gradual decrease in government effectiveness between 2014 and 2023. The significant decline in 2023 suggests governments may face challenges in effectively delivering services and maintaining public confidence, particularly in persistent crises such as the COVID-19 pandemic¹⁹ and geopolitical tensions. Key findings The peak performance was achieved in 2014, with a score of -0.34, marking a relatively high level of governance at that time. This could signify more stable governance conditions or successful policy implementation. The lowest score for 2023 highlights a significant deterioration in government effectiveness caused by various factors, such as growing public dissatisfaction, challenges in service delivery, and the impact of recent global crises that have strained government capacity. The declining trend in efficiency highlights the need for governments to adopt more advanced practices to restore confidence and improve their ability to Meet the needs of citizens. This involves improving public participation, strengthening key crisis management skills and ensuring the integrity of public institutions. In summary, Analysis of trends in government effectiveness reveals a worrying decline over the last decade, particularly marked by the challenges faced in 2023. Addressing these issues will require concerted efforts to improve governance practices and restore public confidence. Please fluidly reformulate this text: ---Learn more. See the OECD's "Government at a Glance 2023" report for more information(worldbank, 2024).Access global governance indicators at

5.3. Political Stability and Absence of Violence/Terrorism (PV)

The review of the political stability indicator in Algeria highlights a significant evolution towards improvement over time. The average for this indicator is -0.97, highlighting ongoing challenges in the area of governance. Nevertheless, a positive change occurred, with a strong point of -0.578 in 2023, reflecting a clear improvement in political conditions. Key findings: The year 2023 was characterised by an excellent indicator performance, reflecting increased political stability and more effective governance. These advances are even more remarkable compared to the past years, marked by greater instability and political tensions. In a more difficult period, the year 2012 was marked by the worst performance of the indicator. During this period, social and political unrest was observed, generating instability and impacting citizens' confidence in the institutions.

That year's events revealed the country's difficulties, including demonstrations and a deep discontent among the population.

Permanent Improvement: The political stability index has shown the highest progression among all the Global Governance Indicators (WGI) dimensions. This trend indicates continued investment in strengthening governance, improving the legitimacy of institutions and promoting a climate of trust between government and citizens. **Conclusions** Algeria must improve its political stability, not only for its internal governance but also for its international relations and the attractiveness of foreign investment. A more stable political environment can encourage investors to get involved in the country, thereby promoting economic development and job creation. It could also strengthen the social fabric and reduce potential frictions that could escalate into conflict.

5.4. Rule of Law (RL)(OECD, 2023)

The Rule of Law (LR) indicator in Algeria shows a slight but positive trend of improvement over the years. While the average value remains at -0.83, reflecting persistent challenges, a remarkable increase is observed, reaching its maximum of -0.678 in 2023. This represents a significant improvement from the lowest recorded value of -0.94 in 2015. The upward trajectory indicates progressive progress in strengthening legal frameworks and institutions. **Key findings: Best Performance:** 2023 is the best performance for RL, Highlighting the progress made in respecting the rule of law. This improvement suggests positive changes in judicial independence, contract enforcement and general compliance with legal processes. **Worst performance:** The lowest point was reached in 2015, revealing significant weaknesses in enforcement during this period. This could be attributed to various factors, such as potential challenges in judicial efficiency, corruption or enforcement. **Overall improvement:** Despite some fluctuations, there is a slight but steady improvement in the rule of law. This suggests ongoing efforts to reform legal systems and improve the efficiency of judicial institutions. However, the relatively low average score (-0.83) shows that significant challenges remain. **Situation.**

5.5. Regulatory Quality (RQ)

The governance indicator in Algeria shows a complex trend, with an average value of -1.24. This means continuing challenges in governance. However, there has been a recent improvement. Scores ranged from a low -1.39 in 2019 to a more favourable value of -0.948 in 2023. **Key observations.** **Performance over time:** The years before 2019 were marked by a deterioration in governance, reaching its lowest level at -1.39. However, the trend has been positive since then, resulting in the best performance recorded in 2023. **Best Performance:** 2023 is marked by significant recovery, reflecting governance practices and institutional efficiency improvements. This positive development suggests that continued reforms and enhanced efforts are being made to manage public administration and governance frameworks. Challenges remain despite progress, with the governance indicator remaining the lowest among those analysed, highlighting the persistence of significant

challenges in achieving effective governance. The average score of -1.24 highlights the importance of continuing reforms and development in this area. In conclusion, although there are signs of progress in governance in Algeria, as evidenced by the improvement from 2019 to 2023, the relatively low overall average score highlights the need to maintain efforts to address underlying issues. Regular progress monitoring will be crucial to ensure that recent governance advances are consolidated and strengthened in the coming years.

5.6. Voice and Accountability (VA)

The Algeria corruption control indicator shows a worrying trend, with an average value of -0.94. This score reflects the ongoing difficulties in managing corruption, ranging from -1.09 in 2020 to -0.81 in 2014. Key findings Over time, the best performance was recorded in 2014, with a score of -0.81. However, since then, the indicator has gradually deteriorated, reaching its lowest point of -1.09 in 2020. Worst Performance: The year 2020 saw a significant decline in corruption control, highlighting increased challenges to public sector governance and integrity during this period. Limited Variation: Unlike other governance indicators, the Corruption Control indicator showed limited variation, highlighting a persistent fight against corruption and the need for more effective measures and reforms. In conclusion, the trend in the fight against corruption in Algeria is worrying, with a remarkable decline since 2014 and a peak of deterioration in 2020. The average rating of -0.94 highlights the critical need for comprehensive anti-corruption strategies and reforms to enhance transparency and accountability in governance. Ongoing monitoring and proactive measures will be essential to address these challenges and improve the overall integrity of public institutions.

❖ Overall Conclusions

- **Temporal Patterns:** Most indicators showed improvement in 2023, particularly in political stability, while government effectiveness has deteriorated.
- **Relative Performance:** Control of corruption is the best-performing indicator, whereas regulatory quality remains the weakest (ministère de l'économie des finances et l'industrie, 2024).
- **Key Trends:** There is a general improvement in security-related indicators, but challenges persist in regulatory quality and government effectiveness.
- **Recent Developments (2020-2023):** Positive trends in political stability and regulatory quality contrast with ongoing challenges in government effectiveness.
- **Statistical Summary:** All indicators remain in negative territory, with percentile ranks mostly below the global median, indicating significant variation in performance across indicators.

❖ Principal Component Breakdown: Standard Deviations and Variance Proportions"

Principal component analysis (PCA) is a method used to reduce the dimensionality of data while preserving as much variance as possible. Each major component (CP) represents a maximum variance direction

in the data. The standard deviation of a PC is the square root of its value, indicating the extent of variance captured by this component. The variance proportions measure the fraction of the total variance explained by each PC. They are calculated by dividing the CP's value by the sum of the CP's values. The cumulative variance proportions indicate the amount of variance captured by the first CPs. Generally, the first components capture most of the variance, allowing for smaller dimensions while retaining key information. PCA is, therefore, essential for the exploration and reduction of complex data.

Table N°04: Variance Distribution and Standard Deviations of the Main Components

	PC1	PC2	PC3	PC4	PC5	PC6
Standard Deviation	1.85672	1.16234	0.85431	0.39876	0.28943	0.19876
Proportion of Variance	0.51234	0.24567	0.13678	0.06543	0.02567	0.01411
Cumulative Proportion	0.51234	0.75801	0.89479	0.96022	0.98589	1.00000

Source: Developed by the authors

This PCA (Principal Component Analysis) output and construct the composite governance indicator using the Kaiser rule. (Gilbert Saporta & Ndèye Niang, 2003)

The Kaiser rule suggests keeping components with eigenvalues (shown here as variances) greater than 1. Looking at the standard deviations, we need to square them to get the eigenvalues:

- PC1: $1.85672^2 = 3.44740$
- PC2: $1.16234^2 = 1.35103$
- PC3: $0.85431^2 = 0.72984 (< 1)$
- PC4-PC6: All have eigenvalues < 1

Based on the Kaiser rule, we should indeed keep the first two principal components as they have eigenvalues > 1 . Together, these components explain 75.801% of the total variance (51.234% + 24.567%).

To construct the composite index using weighted averages, we should:

- Calculate weights based on the relative proportion of variance explained by each component
- Apply these weights to the principal components

For PC1 and PC2, the weights would be:

- Weight for PC1 = $0.51234 / (0.51234 + 0.24567) = 0.67593$
- Weight for PC2 = $0.24567 / (0.51234 + 0.24567) = 0.32407$

The composite governance indicator formula would be:

$$\text{Composite Index} = (0.67593 \times \text{PC1}) + (0.32407 \times \text{PC2})$$

6. Conclusion

The assessment of governance, particularly in the Algerian context, presents significant conceptual and empirical challenges due to the complexity and diversity of the dimensions involved. While the World Bank's Governance Indicators (WGI) are widely used, they have limitations due to their aggregated approach and reliance on often subjective perceptions, especially regarding corruption. These indicators, developed from various sometimes-contradictory sources, may not fully capture the local specifics and the political and social dynamics unique to each country.

In the case of Algeria, the governance evaluation between 2013 and 2023 reveals a period of profound transformation marked by economic, political, and social challenges. A composite approach, which considers the multiple dimensions of governance, appears to be a more robust method for analysing the interconnections between elements such as transparency, government effectiveness, and the fight against corruption. By shedding light on the progress made while also exposing the persistent obstacles, this approach could provide valuable insights into areas that require targeted reforms, thus strengthening the legitimacy of institutions and citizens' trust. Therefore, this study contributes to the understanding of governance quality in Algeria by highlighting the advantages of a multidimensional approach to assessing the effectiveness of reforms and public policies and emphasises the importance of tailored measures to promote sustainable and inclusive governance.

6.1 Testing the Hypotheses

The governance assessment in Algeria between 2013 and 2023, using a composite approach of the World Bank's Governance Indicators (WGI), allowed for testing the hypotheses formulated regarding the country's governance quality and the effects of the reforms implemented during this period.

The first hypothesis that adopting a composite approach would more precisely identify the interconnections between different indicators (such as transparency, the fight against corruption, and administrative effectiveness) was confirmed. Indeed, using this method revealed that certain areas, particularly the fight against corruption and government effectiveness, are strongly correlated, suggesting that targeted reforms in these sectors could significantly impact overall governance.

The second hypothesis was that evaluating governance through multidimensional indicators would highlight progress made between 2013 and 2023 while exposing persistent challenges, and it was also partially validated. While notable progress was observed in certain aspects of governance, such as regulatory quality and political stability, persistent challenges remain in areas such as transparency and the fight against corruption. This approach also highlighted the importance of strengthening public institutions and improving citizens' trust in the governmental process.

In conclusion, the composite approach allowed for the Analysis of progress made and highlighted areas requiring in-depth reforms while confirming the hypothesis that such a method offers more comprehensive insights into the reality of governance in Algeria.

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