



Does country-level governance matter for national development? An analysis on the founding states of Turkic council

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ABSTRACT

This study aims to examine *if there is a long-term relationship between the participation of 'country-level governance' and 'national development' through the data of founding countries of the Cooperation Council of Turkish Speaking States (Turkic Council)?* The hypothesis of *there is a significant long-term relationship between country-level governance and national development* was tested via the panel data analysis of four Turkic countries: Azerbaijan, Kirgizstan, Kazakhstan, and Turkey. The compounds of the 'Worldwide Governance Indicators' were used as the independent variable, and 'Human Development Index' as the dependent variable. A Panel Causation Test was conducted to investigate if there are long-term co-integration and causation between country-level governance and national development. Our results found that there is significant causation between the country-level governance indicators of 'Voice and Accountability' and 'Government Effectiveness' with the 'national development' process. Thus, our findings will contribute to both academics who study the effects of governance on development and to policy-makers who utilize these sources for improved political and social development with the aim to prevent poverty and improve access to basic human needs.

KEYWORDS

Governance; public administration; development; human development; the cooperation council of Turkish speaking states

JEL CLASSIFICATION

G34; O1; O15; O16

1. Introduction

Investigating the last three to four decades, it is possible to see that humanity has witnessed a vast and fast change in almost all fields of social life. All developments trigger the know-how accumulation of economic development from economics to finance, education to health, international relations to power using types. Inevitably, this progress has affected the political process of the states and their public administration systems. Particularly with the impact of the new right (Neo-Right) ideology and its neoliberal policies, the structure of the classical public administration has transformed into the new public management approach with an accompanying slogan of *a steering government rather than towing*. This approach which can be abstracted as *minimizing the state power and letting the private sector execute almost everything that could be done by the private sector* so that productivity and efficiency is assured. This trend has firstly shaped the administrative structures and also started to change the political structures by the end of the 1980s. Keser

(2018, 2) asserts that within the frame of this progress, humanity has witnessed a transformation from the traditional governing system to the governance mechanism and also from an administrative to a managerial structure. This governance system is supported by the practical benefits of a new public management approach that is based on the participation of all social parties.

The concept of governance emerged since the end of an era of the division between politics and administration in the public sector. Before governance was coined, politics and administration were treated as separate entities in the public sector. By the 1980s, these two governing bodies of politics and administration merged, creating what we now call as governance today. According to Tekeli (1996, 52), governance is evaluated by the social workers who have a role in social dynamics and public policies as the social stakeholders. Furthermore, a guidance and inspection pattern emerges from the intertwined connections between economic, political, and these social workers. With its style of

use in current academic literature and international organizations, the term governance was first seen in a report of the World Bank in 1989 and also in the reports of the Organization for Economic Cooperation and Development (OECD). The concept of good governance, on the other hand, was used during the Second United Nations (UN) Least Developed Countries Conference in 1990 (Sözen and Algan 2009, 12). Good governance was mentioned as ‘a combination of various factors’ in the UN Development Programme Report (UNDP (United Nations Development Programme) 1994). The most significance of those factors were aligned as *participation*, *transparency* and *accountability*. Within the frame of the report, the UN accepts good governance principles as ‘transparency, accountability, participation, responsiveness, rule of law, efficacy, and strategic vision’ (UNDP (United Nations Development Programme) 1994).

It is possible to say within this framework that the economic development of countries is positively affected by activating a governance mechanism that aims for public funding to be used effectively and also the management process to be audited transparently. This new participatory system aims to replace the older top-bottom approach of management in social administration. Indications regarding this relation are further elaborated in the subsequent discussion.

Within the frame of the aforementioned expectations, this study was conducted to *examine if there is a long-term relationship between the participation of ‘country-level governance’ and ‘national development’* through the data specifically of this sample group consisting of the nations of the Turkic Council. The four founding member countries of this organization named in-short as the Turkic Council, and more formerly known as ‘The Cooperation Council of Turkic Speaking States’, were chosen as the sample to represent this population to elucidate any relationship between indicators of governance level and development specifically in Turkish speaking nations.

To briefly discuss its history, the Turkic Council is an international organization established during the Nakhchivan Agreement between its original four founding countries of Azerbaijan, Kazakhstan, Kyrgyzstan, and Turkey on October 3rd, 2009. Uzbekistan later joined the

Council as a full member during the 7th Summit held in Baku ten years later in October 2019. Hungary gained observer status during the 6th Summit of the Turkic Council held in Cholpon-Ata, Kyrgyzstan in September 2018. However, Uzbekistan could not be included in the analysis because its recent membership has not allowed data on the country to be completely collected; similarly Hungary, with its observer status and relatively new relations with the Council, is also excluded from the analysis for the same reasons.

The 2nd article of Nakhchivan Agreement, which is the legal founding document of the Turkic Council, states that the purpose of the council as ‘encouraging effective regional and bilateral cooperation in political, commercial, economic issues and law enforcement, environment, culture, scientific-technical, military-technical, education, energy, transport, credit and finance areas and other fields of common interest’. The first Summit Meeting held in Almaty on 20–21 October 2011 focused on a theme of ‘Economic and Commercial Cooperation’ among the four countries; while concluding the agreements and regulations of the institution itself (Turkic Council Official Webpage 2020). Although we have examined governance effects on all aspects of development for the European Union countries and far-east Asian countries in the past (Keser and Gökmen 2017), this is the first-time governance is evaluated for Turkic countries as the sample population. Thus, Turkic Council member countries that aim cooperation for both political and economic development are a novel sample set for researching the relationship between the governance and development levels, providing valuable contribution to literature.

2. Theory: governance, development and human development

This chapter respectively scrutinizes governance, indicators of governance, development, and human development concepts through the content in literature.

Governance and its indicators

Following definition can be made by considering the issues in the Introduction of this chapter:

governance is a participative administration process in which all actors, likely to be affected by the results of public policies to be regulated, can participate in the decision-making progress as social stakeholders; can express themselves; can transparently observe the developments through the networks of membership; can learn from each other and affect each other. These nations can also reshape their policies within this interaction process. Allocated resources will be audited with accountability. Productivity and effectiveness are considered under the rule of law when using the resources. In a similar vein, Yu (2015) and Chan and Womack (2016, 96) argue that ‘Governance mechanism can be distinguished from “government” in a couple of ways. First of all, government authority is unitary, while governance involves different levels and venues of authority. Secondly, although governance implies instrumentality towards given goals, it requires interaction with civil society and local populations for its effectiveness. Thirdly and lastly, while “Government” is concerned with formal structure and process; “governance” is concerned with interaction and outcomes’.

Good governance indicators were revealed by the World Bank (WB) in 1992 and by the European Union (EU) in 2001. EU’s ‘White Book of Good Governance’ aligns the governance principles as follow: (1) Openness: working for EU organizations openly and in greater communication; (2) Participation: Broad participation should be ensured in all processes from the idea stage to implementation create quality, successful and effective policies; (3) Accountability: Roles of legislative and executive powers should be clarified; institutions should make explanation and take responsibility about their actions; (4) Effectiveness: Policies need to be effectively and timely used in line with the objectives; (5) Coherence: Policies and applications should be integrated; should be coherent and articulable (EU Official Webpage 2001, 10).

Since this study used the World Bank’s data within the scope of governance index, it was decided to explain particularly the governance criteria or indicators of the World Bank following the brief information on the governance principles of EU above. In this context, the below items are the

criteria to decide whether there is good governance in a country by the consideration of the World Bank, the quality of the political system of the country, the quality of execution of public services and whether civil society participates in proper decision-making progress or not:

Voice and Accountability (VA): This is the dimension on the social perception of the citizens in a country to elect their government.

Political Stability and Absence of Violence (PS and AV): This is the dimension on the perception or social attitude regarding the possibility of an unconstitutional overthrow of the government, including acts of violence and terrorism.

Government Effectiveness (GE): This is the dimension of the quality of public services to establish and implement policies and also about the consistency of government in fulfilling its responsibilities related to similar policies.

Regulatory Quality (RQ): This is the level of the perception related to applying legislative regulations and policies that allow and create a suitable environment for the private sector to develop.

Rule of Law (RL): This is the perception level related to the trust and respect of all actors in society to the rules and laws; fulfilling the obligations to prevent crime and violence; property rights, quality of the police and the judiciary.

Control of Corruption (CC): Perception level and reality related to avoiding the use of government power for the capture of the public and private properties by elite powers for their own benefit (World Bank 1992).

The World Bank has published the governance index, showing the status of the countries based on the criteria above every year. The data belonging to the four founding members of the Turkic Council are completely available for the years between 2002 and 2018. For this reason, our analysis only includes data of human development and governance index from Azerbaijan, Kazakhstan, Kyrgyzstan, and Turkey that are the members of Turkish Council, within the years of 2002 to 2018.

Relation between development and governance: theoretical framework

Regarding the political participation concept, studies about participation in political processes,

governance, development, and human development as the indicators of development have started since the mid-1990s. Kaufmann (2005, 55–57) made a research on media, governance, and development and pointed out that jurisdiction of the World Bank was limited to economic issues only till the midst of the 1990s. Accordingly, the function of establishing governance and strong institutions by the World Bank was neglected till that year. Thus, the World Bank noticed by the end of the 1990s that bad governance and widespread corruption are not only serious obstacles for the effective use of development resources, but also negative factors that affect the poor at most.

The strong relation between governance and human development was first brought up to the agenda by a report of the United Nations Development Programme (UNDP) in 1997 (UNDP (United Nations Development Programme) 1997a, 90). For Graham, Bruce, and Tim (2003, 1), the critical role of governance in ensuring social welfare has been brought into the forefront after that period. Again, according to UNDP – Human Development (HD) Report 1997, better governance is not only important in terms of ensuring the rule of law and avoiding international organized crime, but also strengthening and improving the social and economic infrastructure (UNDP (United Nations Development Programme) 1997a, 90). The core idea of the report is a struggle against poverty and also the issue of ‘poverty can no longer be seen as an inevitable situation’ is determined as the main perspective of human development. Because, according to the report, the world has sufficient materials, natural resources, accumulation of knowledge, and manpower that are enough to end the poverty. Findings in the report give clues to the relationship between governance and human development as follows: ‘Poverty, as a multi-directional concept, does not only mean low income but also poor health and education conditions, limited access to information and communication opportunities, lack of political rights and lack of protection of human dignity and personal dignity’ (UNDP (United Nations Development Programme) 1997a: iii). Abdellatif (2003, 4) highlighted that governance has a central role in the development process of a society, as a key factor that needs to be included

during the establishment of development strategies and policies. However, UNDP, too, accepts good governance as a usable tool for poverty prevention while the current global governance system remains incapable of solving internal conflicts. In its own words, ‘One of the most important problems of the poor communities and households involved in conflict environments is the inefficacy of the modern global governance system. In brief, the current global governance system has not been designed to solve the internal conflicts’ (UNDP (United Nations Development Programme) 1997a, 66). This elucidation of the inadequacy of the global governance system in the report highlights that organizations such as the UN remain incapable of solving the internal conflicts because of the problems arising from their design and structure. In other words, the inadequacy is not related to a lack of good governance by the country per say, but rather related to conflicts arising from larger organizations like the UN. As a matter of fact, this issue is laid bare by the following statement in the report that ‘good governance is a must to both ensure the superiority of law and protect and improve the social and economic infrastructure’ (UNDP (United Nations Development Programme) 1997a). Moreover, governance has won a seat in six key policy choices that are suggested to create more opportunities for poor countries; provide the equal distribution of blessings of global integration, and also reduce the poverty. Six key policy choices are aligned as follows: (1) Manage merchandise and capital flows more carefully, (2) Invest in poor people, (3) Support small business, (4) Support and use new technology, (5) Reduce the poverty and establish safety nets, (6) Strengthen governance (UNDP (United Nations Development Programme) 1997a, 90).

Another conclusion discussed in a policy document of UNDP, related to the role of governance in increasing development and human development is as follows: ‘Only the good governance can solve poverty, inequality and security deprivation problems. UNDP believes that building governance capacity is crucial to provide sustainable human development’ (UNDP (United Nations Development Programme) 1997b, 2). In addition to all of these, for the related policy document, governance and human development are the

integral parts of a whole. The following expression as ‘sustainable human development cannot be achieved without governance and/or if governance cannot provide sustainable human development, there is not strong governance’ confirms this idea (UNDP (United Nations Development Programme) 1997b, 4). The World Bank expresses the close relationship between governance and development by the expression of ‘governance means to be managed by a country so as to provide economic and social development’ (Holzer and Kim 2002). With reference to this expression Abdellatif (2003, 5) highlighted that ‘governance is associated with the management of development process so as to directly cover both public and private sector’. UNDP makes the following definition on the roles of the main agents at different governance layers as: ‘Government organizes the political and legal environment. The private sector generates employment and income. E.g. Rachisan, Bota-Avram, and Grosanu (2017) assessed that country-level governance has an impact on the investments of foreigners. On the other hand civil society provides political and social interaction by mobilizing groups to participate in economic, social, and political activities. Each agent has strengths and weaknesses. The main goal to good governance is to reveal the constructive interaction between these three main agents’ (UNDP (United Nations Development Programme) 1997b, 6). For UNDP, three agents of governance are the state, private sector, and civil society; each of which have a specific role in terms of sustainable human development (UNDP (United Nations Development Programme) 1997b, 16). To reiterate Abdellatif (2003, 4) once more, ‘good governance is a must for development’.

Emphasizing the close relationship between governance and human development, UNDP defines human development as simply increasing/expanding the options of all people in society (UNDP (United Nations Development Programme) 1997b, 10). According to that report, in the governance approach, all men and women, especially the poor and vulnerable, are at the centre of the development process.

In line with the above approach, Chansarn (2014, 3) aligns the indicators to be used for measuring human development that is in a close

relationship with governance and also is a mark of the development process as follows: ‘Income per capita, life expectancy, average education/school time, and expected education/school time. In addition to these, sources are measured by per carbon-dioxide emissions, electricity power per capita and energy use per capita’. If we look at the 20–30 years of history of these indicators for analysing human development, we find a wide range of use of these factors on a welfare level as it is both a multidimensional measurement tool as well as being transparent and simple (Harttgen and Klasen 2012, 878). In other studies Larsson and Thulin (2019) and Torres and Augusto (2020) assessed in their studies that sufficient quality education system and good governance has a positive impact on a country’s welfare level. According to UNDP, sustainable human development has five factors that affect the lives of poor and defenceless people: (1) Empowerment: this item provides to improve the skills and choices of people and also increases their skills to make choices without hunger and deprivation pressure; empowerment also increases the opportunity to participate to decisions in issues affect life. (2) Co-operation: this item supports individuals to work together and interact with each other within the scope of self-realization and strengthening the sense of belonging. (3) Equity: Improving/broadening skills and opportunities means much more than income, e.g. equal access to opportunities for education. (4) Sustainability: While meeting the needs of generations today, sources should be used and protected so as future generations will protect themselves from poverty and deprivation and also meet the basic needs. (5) Security (especially the security of means of living): people must be protected against threats such as epidemic and common diseases or scarcity or sudden deterioration and crises (UNDP (United Nations Development Programme) 1997b, 10–11). In brief, from the UNDP perspective, ‘Governance has three bases of economy, politics and administration. Economic governance includes the decision-making process that affects the economic activities of a country and also the relations of the same country with other economies. Therefore, it has a great impact on equality, poverty, and life quality. Political governance means participation in the

decision processes in which effective policies are formulated. Administrative governance is the system where these policies are applied. Good governance that covers all three levels of governance defines the process and structures that guide political and socio-economic relations' (UNDP (United Nations Development Programme) 1997b, 12–13). All these explanations give clues to the close relationship between governance and development.

Keser and Gökmen (2017, 31–35) conducted a research on governance index indicators and human development levels of 33 EU member and candidate countries for the 2002–2012 periods by panel data analysis. For their conclusions, there is a positive causality between high government efficacy (GE), regulatory quality (RQ), rule of law (RL), and human development (HDI). Again, according to their study, a 1% increase in government efficacy (GE) causes a 0.013 increase in human development (HDI) in the same direction; a 1% increase in regulatory quality (RQ) causes a 0.010 increase in HDI; a 12% increase in rule of law (RL) causes a 0.012 increase in HDI. Hereby, it is important to survey whether there is a similar valid relationship between the variables for the member countries of the Turkish Speaking Countries Council; revealing the differences is also essential if there is such a relation in the last instance. Because the countries of the Council have two different economic background, 1st Free Market Economies like Turkey, and 2nd ex-Soviet Union Countries previously had socialist economic systems and in transition to capitalist system like Azerbaijan, Kirgizstan, Kazakhstan. So conducting a research within a group coming from similar/joint cultural background but had various economic systems in the past and recently trying to increase the participative country-level governance may also provide significant contribution to the governance literature even if the sample size is small. In addition these countries are the founders of the Turkic Council there is not a joint data problem for their variables.

In another research Cuong et al. (2021, 131) 'examined how governance and public administration quality can affect per capita income, income inequality, and poverty using data collected from provinces in Vietnam'. The authors

found 'a positive and nonlinear association between governance and public administration and per capita income. Better performance of governance and public administration also appears to improve income distribution and reduces poverty' (Cuong et al. 2021, 131). Ciborra and Navarra (2005, 141) stress the importance of the relation between two phenomena by stating that "poor governance is among the most important causes of state failure and underdevelopment. Furthermore, Song et al. (2019, 692) stressed the importance of the psychological aspect involved in governance and that there is a dire need to stimulate greater trust in among the workers in these governance networks, which ultimately facilitates more collaborative and innovative policy outcomes in the public sector. There are also some researchers studying the topic of trust in governance with a critical perspective. For example, Caroline Thomas (2001) explores the links between global governance, development and human security. Thomas asserts that 'during the closing decades of the 20th century, a neoliberal vision dominated the global development policy agenda, while these problems of inequality deepened. The policy was developed, championed and implemented by a range of global governance institutions, working through state governments'. But the author approaches these implementations suspiciously and questions 'for whose interest global governance and its associated development policies may be operating, and whether this is in support of human security?' (Thomas 2001, 159). All these studies and conflicting ideas showcase that there are gaps in the analysis and provoke the conduction of data-proven empiric studies. Thus, this study aims to fulfil this gap with the data of the Turkic Council as our sample set.

With reference to all explanations, the relationship between governance level and development or human development as an indicator of development through founder members of Turkic Council was analysed below.

3. Research method and econometric analysis

The analysis part of this paper tests the research question as: *is there a long-term relationship*

between the participation of ‘country-level governance’ and ‘national development’ through the data of founding countries of the Cooperation Council of Turkish Speaking States (Turkic Council)? Within this scope, first of all, the model and data set of variables that were used in the hypothesis test were introduced; the method was determined and findings were interpreted after presenting the theoretical and conceptual framework of the tests.

Data set and model

The hypothesis to be tested is *there is a long-term relationship between the participation of ‘country-level governance’ and ‘national development’ through the data of founding countries of the Cooperation Council of Turkish Speaking States (Turkic Council – Azerbaijan, Kyrgyzstan, Kazakhstan and Turkey)*. Data pertaining to other members or observer countries of the Council could not be utilized in the analysis because of the incomplete data. Annual data specifically for the years between 2002 and 2018 was used as both dependent and independent variables of governance with its indicators as well as human development figures with its indicators were available.

We have ensured that our variables (as seen in Table 1) both belong to the model suitable for the established hypothesis, and are compatible with studies in literature. Within this scope, the ‘Sub-components of the Country-Level Governance Index’ was selected as the independent variable as it is an indicator for institutionalization level of transparent, accountable, lawful, stable and effective state administration. As for the dependent

variable, the ‘Human Development Index (HDI)’ was used as it is an accurate indicator of development level (UNDP (United Nations Development Programme) 2020). On the other hand, Country-Level Governance Index has six components based on ‘The Worldwide Governance Indicators (WGI)’. Related components are (1) Voice and Accountability – VA; (2) Political Stability and Absence of Violence – PS; (3) Government Effectiveness – GE; (4) Regulatory Quality – RQ; (5) Rule of Law (RL); (6) Control of Corruption – CC (World World Bank 2020). Moreover, since all the variables in the model are index values; it is not needed to take their logarithm.

For our study, in order to analyse the relationship between development and governance index, we designed the following model within the data range of the sample (Equation 1).

Equation 1 shows the model created in the data range with the specified sample in this study.

$$HDI_t = \beta_0 + \beta_1 VA_{it} + \beta_2 PS_{it} + \beta_3 GE_{it} + \beta_4 RQ_{it} + \beta_5 CC_{it} + \beta_6 RL_{it} \varepsilon_{it} \quad (1)$$

$i = 1, 2, 3, \dots, 'N'$ in the model represents the cross section data, while $t = 1, 2, 3, \dots, 'T'$ is the time dimension; ε is the error term.

Econometric method

Methodological ranking in this study analysing the relationship between development and governance index by the annual data of founding countries of Turkish Speaking Council for the 2002–2018 period is as follows:

CD_{lm1} belongs to Breusch and Pagan (1980), and LM_{adj} test belongs to Pesaran, Ullah, and Yamagata (2008) were utilized to analyse the presence of cross section dependency of variables.

Homogeneity test that was developed by Pesaran and Yamagata (2008) was applied to determine the homogeneity or heterogeneity property of variables.

Reese and Westerlund (2016) PANICCA, and Im, Pesaran, and Shin (2003) Stationarity tests were applied to determine whether variables in the model have a unit root.

Bai and Carrion cointegration test that was developed by Bai and Carrion (2013) was applied

Table 1. Variables and sources.

Variables	Explanation	Sources
HDI	Human Development Index	United Nations Development Program (UNDP). (2020). Human Development Reports. http://hdr.undp.org/en/content/human-development-index-hdi
VA	Voice and Accountability	The World World Bank (2020). Worldwide Governance Indicators.
PS	Political Stability and Absence of Violence	http://info.worldbank.org/governance/wgi/Home/Reports
GE	Government Effectiveness	
RQ	Regulatory Quality	
CC	Control of Corruption	
RL	Rule of Law	

to test the presence of cointegration between variables in the model.

Finally, the causality test was conducted by using Dumitrescu and Hurlin (2012) panel causality test.

Cross section dependence test

This analysis needs to be conducted to determine the presence of cross section between variables before the hypothesis tests in the studies using panel data analyses. Dependency between countries has gained strength in the global world. Therefore, shocks and positive or negative developments in any national economy can affect other countries because of this dependency. Here it is important that the cross section dependence arising from the ‘common factor’ problem should be determined in econometric studies.

Findings of the regarding studies in the literature conducted by Phillips and Donggyu (2003), Andrews (2005), and Pesaran (2006) give biased and inconsistent results in case of the lack of cross section analysis. Again, according to Breusch and Pagan (1980), and Pesaran (2004), if there is cross section dependence in variables, related analyses need to be continued by considering this issue.

Tests that are used in determining cross section dependency are as follows (Yıldırım, Mercan, and Kostakoğlu 2013, 87):

Breusch and Pagan (1980) CD_{lm1} test is used when the time dimension is smaller than the cross section dimension ($T < N$),

Pesaran’s (2004) CD_{lm2} test is used when the time dimension equals to the cross section dimension ($T = N$),

Pesaran’s (2004) CD_{lm} is used when the time dimension is smaller than the cross section dimension ($T < N$),

(LM_{adj}) test belongs to Pesaran, Ullah, and Yamagata (2008) is used when the time dimension is both smaller ($T < N$) and greater ($T > N$) than the cross section dimension.

Since data of the four Turkic countries of Azerbaijan, Kyrgyzstan, Kazakhstan, and Turkey are being scrutinized, the N term, which means cross section dimension as mentioned above, is 4 in our equation. Furthermore, since the time dimension encompasses the annual data from the 2002 to 2018 period, then the T term is 17 for the amount of years being analysed. Breusch and Pagan (1980) CD_{lm1} test and (LM_{adj}) belongs to Pesaran, Ullah, and Yamagata (2008) were used in analyses because $T > N$.

Since there $T > N$, there can be made decisions based on the CD_{lm1} and LM_{adj} results by considering countries and time dimensions in the model. Again, since CD_{lm1} test may give biased results in cross section dependence tests, LM_{adj} test results are considered in general. As is seen in Table 2, that shows cross section dependence test results, probability values of all the variables except PS and RQ are smaller than 0.01.

With reference to LM_{adj} test results, the main hypothesis of ‘there is no cross section dependence between sections’ is denied and the hypothesis of ‘there is cross section dependence between

Table 2. Cross section dependence test results.

Variables	CD Tests	CD_{lm1}	CD_{lm2} (Pesaran 2004)	CD (Pesaran 2004)	LM_{adj} (Pesaran, Ullah, and Yamagata 2008)
		(Breusch and Pagan 1980)			
HDI	T statistics	1.009.968*	2.742.320*	1.002.746*	2.731.794*
	Probability Value	0.0000	0.0000	0.0000	0.0000
VA	T statistics	2.843.681*	6.476.948*	6.371.685*	-2.731.028*
	Probability Value	0.0000	0.0000	0.0000	0.0000
PS	T statistics	8.785.857	0.804208	0.08573	0.698944
	Probability Value	0.1860	0.4213	0.9317	0.4846
GE	T statistics	3.797.736*	9.231.070*	-0.59575*	9.125.807*
	Probability Value	0.0000	0.0000	0.0000	0.0000
RQ	T statistics	1.040.128	1.270.540	-0.47981	1.165.277
	Probability Value	0.1087	0.4213	0.6314	0.2439
CC	T statistics	2.474.990*	5.412.630*	-0.52163	5.307.367*
	Probability Value	0.0000	0.0000	0.6019	0.0000
RL	T statistics	2.409.874*	5.224.656*	-1.467.129	5.119.393*
	Probability Value	0.0000	0.0000	0.1423	0.0000

Note:*, ** and *** show dependency between sections respectively at 1%, 5% and 10% significance levels

sections' is accepted. This situation is in accord with the modern global world; any shock effect for one of the members of the Turkic Council will affect other countries. Therefore, the government and decision-makers in countries in the sample should take into account the current events and make decisions accordingly to guide the future of all parties in the Council.

Homogeneity test

The stationarity of the Political Stability (PS) and Regulatory Quality (RQ) variables with no cross-sectional dependence must be tested with first generation unit root tests. The homogeneity or heterogeneity of the variables in question determines which of the primary generation unit root tests will be tested. For this reason, homogeneity test was applied and the results are shown in Table 3.

For homogeneity test results, since probability values of both test statistics of variables are smaller than 0.01, there is heterogeneity. Thus, the first generation unit root test called Im, Pesaran, and Shin unit root test was applied.

Panel unit root test

Stationarity tests should be performed in econometric analyses to solve the spurious regression problem. Granger and Newbold (1974) highlighted that analysis results are not realistic if variables are with unit roots in series. For Gujarati (1999), stationarity determination of series can be measured as follows; a series is stationary if the variance and average of a series do not change in time and also the covariance between the periods is based on the distance between two periods only, not the period of this covariance.

The key issue that needs to be considered in stationarity tests of panel data analyses is whether countries in the sample are independent from each other. Within this scope, unit root tests of panel data analyses consist of the first and second generation tests. The first generation unit root tests are

divided into two groups based on homogeneity and heterogeneity characteristics of countries. Levin, Lin, and Chu (2002), Hadri (2000) and Breitung (2005) are the most frequently applied tests for the homogeneity assumption; while analyses such as Im, Pesaran, and Shin (2003), Maddala and Wu (1999) and Choi (2001) are tested based on heterogeneity assumption (Göçer, Mercan, and Hotunluoğlu 2012, 457).

The first generation unit root tests do not consider the cross section dependence while the second generation unit root tests perform analyses based on the cross section dependence. To be realistic, the second generation tests are preferred since a shock that comes to one of the countries in the panel may affect other countries as well.

This study scrutinized the relation between governance level and development using PANICCA with Im, Pesaran, and Shin (IPS) stationarity tests to analyse whether variables have unit roots. This relatively recent hybrid test called PANICCA was first applied by Reese and Westerlund (2016) by combining the tests belong to Pesaran (2007), Pesaran, Smith, and Yamagata (2013) and Bai and Ng (2004, 2010). Separately these tests generate different results. For example, Pesaran (2007)'s, Pesaran, Smith, and Yamagata (2013)'s test is the single and multi-factor testing approach by taking the difference from cross section averages. On the other hand, the Bai and Ng (2004, 2010) test is an approach that separately tests the stationarity of residual and factors. The PANICCA test combines these two approaches. Main differences of this test from other unit root tests in literature are as follows:

It includes the features of the PANIC test and also has the same asymptotic properties of the PANIC.

Since this is a test based on CA approach, its performance is pretty high when N is small and at a medium level.

PANICCA test is both one of the latest unit root tests and based on the common factor modelling as well. Moreover, this test reviews the stationarity of series at level; however, it does not provide information on whether series have unit root when their differences of the first degree are computed (Reese and Westerlund 2016, 971).

Table 3. Homogeneity test results.

Test Statistics	Test Statistics	Probability Value
Delta_tilde	3.862	0.000
Delta_tilde_adj	4.379	0.000

Table 4. PANICCA unit root test results.

Variables	Statistical Values	With Trend			With Trend and Constant		
		Pa	Pb	PSMB	Pa	Pb	PSMB
HDI	Test Statistics	1.615	3.308	5.175	0.344	0.382	0.416
	Probability Value	-0.9469	-0.9995	-1	-0.6346	-0.6488	-0.6614
VA	Test Statistics	1.823	1.572	-0.012	-0.451	-0.414	-0.316
	Probability Value	-0.9658	-0.942	-0.495	-0.326	-0.3394	-0.3759
GE	Test Statistics	-2.389	-1.511	-0.925	-0.343	-0.326	-0.217
	Probability Value	-0.0084	-0.0654	-0.1776	-0.3656	-0.3724	-0.414
CC	Test Statistics	-1.307	-1.013	-0.495	0.979	1.48	2.18
	Probability Value	-0.0956	-0.1554	-0.3102	-0.8362	-0.9306	-0.9854
RL	Test Statistics	0.136	0.146	0.433	0.944	1.271	1.662
	Probability Value	-0.5542	-0.5578	-0.6674	-0.8274	-0.8982	-0.9517

There is no cross section dependence in PS and RQ variables in the model while the other variables have cross section dependence. Therefore, Im, Pesaran, and Shin (2003) which is one of the first generation unit root tests was applied for PS and RQ; the PANICCA test that is one of the second generation unit root tests was applied for other variables. Table 4 below shows the PANICCA Unit Root Test Results.

According to PANICCA unit root test results, all the variables in the model with cross section dependence have unit root in models with both constant, and constant-trend. This result can be interpreted as a shock that is seen in one of the countries in the model creates permanent results and does not lose its influence. Moreover, the lack of stationarity in the series provides the required precondition to make a cointegration test.

Im, Pesaran, and Shin unit root tests that are most frequently used in literature were applied for PS and RQ variables without cross section dependence.

For IPS test results, as seen in Table 5, both variables have a unit root at a 5% significance level in the model with both constant and constant-trend.

The findings obtained from both unit root tests coincide with each other and we conclude that all the variables are not stationary at level values. Series that have a unit root at level values arising from PANICCA unit root test show that the required precondition of long-termed cointegration relation between variables is provided (Türkmen, Ağır, and Günay 2019, 97; Kar, Ağır, and Türkmen 2019, 43; Günay, Ağır, and Türkmen 2018, 98).

Bai-Carrion cointegration test

Bai and Carrion (2013) cointegration test considers cross section dependence in determining

Table 5. Im, Pesaran and Shin unit root test.

Variables	With Trend		With Trend and Constant	
	Test Statistics	Probability Value	Test Statistics	Probability Value
PS	-1.5149	0.0649	-1.1563	0.1238
RQ	-0.6223	0.2668	0.0907	0.5362

long-termed relations between variables in the model and is used in this study. Bai and Carrion (2013) cointegration test is one of the second generation new cointegration tests with cross section dependence problem on variables. Cross section dependence problem in analyses is solved by common factors; it is assumed that there is a correlation between independent variables and common factors. At the end of the analyses, the main hypothesis shows that there is not a long-termed cointegration between variables; the alternative hypothesis shows that there is long-termed cointegration between variables (Bai and Carrion 2013, 222).

Since the Bai-Carrion cointegration test is a second-generation test, the variables which have cross section dependence in the model were tested. PS and RQ variables were not included in cointegration and causality tests. Bai-Carrion Cointegration Test results are shown in Table 6 below:

As is seen in Table 6, according to Bai and Carrion (2013), three statistical values are obtained and we conclude that there is no long-termed cointegration between variables in the model because the probability value of any test statistic is not less than 0.05.

Dumitrescu-Hurlin causality test

Since cointegration does not inform about the causality and its direction between the variables, we

Table 6. Bai-carrion cointegration test.

Model	Test statistics	T statistics	Probability Value
With Trend	MSB	-0.858	0.196
	P	0.716	0.237
	Pm	35.543	0.223
With Constant and Trend	MSB	5.597	1.000
	P	-2.168	0.985
	Pm	13.208	0.997

Note: *, ** and *** show the long-termed relation between variables respectively at 1%, 5% and 10% significance levels

tested the causality and its direction after cointegration analyses between variables in the model. The causality between development and governance index was examined by the causality analysis that was developed by Dumitrescu and Hurlin (2012).

Dumitrescu and Hurlin causality test can be applied even in cases where there is no cointegration; this is the key reason for being chosen this test. Moreover, this test is one of the causality tests that give effective results in cases there is a cross section dependence of independence. Constant slope coefficients for every country are separately computed and also the cross section dependence is considered in this method (Dumitrescu and Hurlin 2012, 1457).

Table 7 shows the causality test results between the country-level governance (governance index) and national development.

Below items can be accepted based on panel causality test results:

There is a one-way causality from Voice and Accountability (VA) variable to the Human Development Index (HDI) variable at a 1% significance level,

There is a one-way causality from Government Efficacy (GE) variable to the Human Development Index (HDI) variable at a 5% significance level.

Based on these results, we concluded that freedom of Voice and Accountability and the Government Effectiveness variables affected development in countries in our sample group; however, the other variables tested were not found to have a significant effect on the development process of related countries.

4. Discussion and conclusion

One of the preconditions to reach a high level of human development is to have a high level of good governance. We examined whether there was

Table 7. Dumitrescu-Hurlin causality test.

Direction of Causality	Test	Test Statistics	Probability Value (10%)
$\Delta\text{HDI} \Rightarrow \Delta\text{VA}$	Z-bar	2.4049	0.2459
	Z-bar tilde	0.4206	0.6033
$\Delta\text{VA} \Rightarrow \Delta\text{HDI}$	Z-bar	21.6620	0.0025*
	Z-bar tilde	7.2828	0.0025*
	Z-bar tilde	0.3042	0.6667
$\Delta\text{HDI} \Rightarrow \Delta\text{GE}$	Z-bar	2.4324	0.1267
	Z-bar tilde	1.0789	0.1597
	Z-bar tilde		
$\Delta\text{GE} \Rightarrow \Delta\text{HDI}$	Z-bar	5.2823	0.0406**
	Z-bar tilde	1.4459	0.0406**
	Z-bar tilde		
$\Delta\text{HDI} \Rightarrow \Delta\text{CC}$	Z-bar	-0.2502	0.7947
	Z-bar tilde		
	Z-bar tilde		
$\Delta\text{CC} \Rightarrow \Delta\text{HDI}$	Z-bar	2.1344	0.2370
	Z-bar tilde	0.3242	0.6489
	Z-bar tilde		
$\Delta\text{CC} \Rightarrow \Delta\text{HDI}$	Z-bar	-0.9010	0.4144
	Z-bar tilde	-0.8413	0.3346
	Z-bar tilde		
$\Delta\text{HDI} \Rightarrow \Delta\text{RL}$	Z-bar	-0.4087	0.7224
	Z-bar tilde	-0.4914	0.5944
	Z-bar tilde		
$\Delta\text{RL} \Rightarrow \Delta\text{HDI}$	Z-bar	-0.1312	0.9328
	Z-bar tilde	-0.2943	0.7693
	Z-bar tilde		

Note: *, ** and *** show the causality between variables respectively at 1%, 5% and 10% significance levels. \Rightarrow is the direction of causality. Test statistics were obtained by 789 repetitions.

a long-term relationship between the involvement of country-level governance and national development with certain measurable factors in a novel sample group of four Turkish speaking countries of Azerbaijan, Kirgizstan, Kazakhstan and Turkey. These member countries of the Turkic Council were not previously examined in literature; thus, our research aimed to elucidate the effectiveness of country-level governance within the scope of national development in order to add to the growing research regarding country-level governance on a global level.

Good governance and administration decrease the poverty level, improve employment, and distribute income fairly; all of which all allow for overall accessibility to basic human needs. When our results are compared with the results of previous research, the findings of this study coincide with the general findings of the established literature even if there are some differences in terms of dimensions of governance that affect human development. Our results showed for the first time that a significant causality is observed between the two factors of country-level governance, Government

Effectiveness (GE) and Voice and Accountability (VA), with Human Development Level (HDI) in these four countries of the Turkic Council.

Previously, Keser and Gökmen (2017, 35–36) conducted an analysis within the scope of the data of 33 member and candidate countries of the EU and concluded that there is a significant and positive relationship between Government Effectiveness (GE), Regulatory Quality (RQ), and Rule of Law (RL) with the Human Development Index (HDI). Similarly, results of our study on the Turkic Council countries mirror with the study on European countries in terms of Government Effectiveness, and Regulatory Quality (RQ) with the exception of Rule of Law (RL); interestingly, our current study found a significant and positive relationship between Voice and Accountability and Human Development Level instead. The underlying source of this difference is thought to be caused by variations in the cultural dimensions of these nations and at the level of institutionalization of governance. In other words, the human development of EU countries was affected by Rule of Law, whereas the human development of Turkish speaking countries was more affected by Voice and Accountability. This nuance in culture can be explained by the fact that Europeans are more attentive in implementing democracy, resulting in the Rule of Law indicator to be significant. In contrast, the Turkic Council countries prioritize Voice and Accountability and the power of speech while implementing governance in their states. Thus, the differences found between the two studies are based on the fact that EU countries utilize different factors of their governing mechanism (Keser and Gökmen 2017) compared to the Turkic Council member states.

Research that was conducted by Owen and Alfred (2010, 689) emphasized that the level of Human Development index and Foreign Capital are associated with the Level of Investing in one country; since invested capital mostly prefers to flow to the developed countries. Again, according to the same research, Foreign Capital flows to countries with High Governance Level performance, but not to the countries with low governance level. Hence, good governance encourages investment; investment allows for development to flourish. Consequently, the precondition of

successful performance in the Human Development Index, which is an indicator of the development level, is to have a good governance mechanism. This result reveals that although there are some minor differences in the sub-indicators arising from the social and administrative cultures of the countries, it is not enough to only take action in economically based policies. A well-functioning governance mechanism, meaning a high performance in legal, political, and administrative participation, transparency, openness, efficiency, and accountability of the governance, is what ensures human development to prosper. Another study conducted by Rachisan, Bota-Avram, and Grosanu (2017) also provides similar results by finding that country-level governance has a positive impact on the investor protection as well. Findings of other studies also support these findings. For example, Larsson and Thulin (2019) assessed that governance has a positive impact on a country's welfare level, and Torres and Augusto (2020) found that if a country has a good quality education system, the digitalization and this sufficient education system may contribute to the country's welfare level. The implications of country-level participation to governance for Azerbaijan, Kyrgyzstan, Kazakhstan, and Turkey (Turkic Council) parallel the results found to be valid in previous studies for the European Union countries with only a slight difference that Voice and Accountability takes the lead in affecting development overall.

Policymakers must realize that in order to establish exceptional human development socially, culturally, and economically, they must improve the performance of governance on all levels, especially on a psychological level to encourage trust. Without developing good governance, it is not possible to achieve human development for the population that they pledged to represent.

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Data Availability Statement

Data Set is uploaded to the system.

As the independent variable we used the data of Azerbaijan, Kirgizstan, Kazakhstan, and Turkey from the World Bank (2020) Worldwide Governance Indicators, URL: <http://info.worldbank.org/governance/wgi/Home/Reports>, and as the dependent variable the data from UNDP (United Nations Development Programme) (2020), Human Development Reports, <http://hdr.undp.org/en/content/human-development-index-hdi>.

References

- Abdellatif, A. M. 2003. "Good governance and its relationship to democracy & economic development". Global Forum III on Fighting Corruption and Safeguarding Integrity, Seoul - the Republic of Korea, May 20-31.
- Andrews, D. W. K. 2005. "Cross-Section Regression with Common Shocks." *Econometrica* 73 (5): 1551–1585. doi:10.1111/j.1468-0262.2005.00629.x.
- Bai, J., and J. L. Carrion. 2013. "Testing Panel Cointegration With Unobservable Dynamic Common Factors That Are Correlated With The Regressors." *Econometrics Journal* 16 (2): 222–249. doi:10.1111/ectj.12002.
- Bai, J., and S. Ng. 2004. "A PANIC Attack on Unit Roots and Cointegration." *Econometrica* 72 (4): 1127–1177. doi:10.1111/j.1468-0262.2004.00528.x.
- Bai, J., and S. Ng. 2010. "Panel Unit Root Tests with Cross-Section Dependence: A Further Investigation." *Econometric Theory* 26 (4): 1088–1114. doi:10.1017/S0266466609990478.
- Breitung, J. 2005. "A Parametric Approach to the Estimation of Cointegrating Vectors in Panel Data." *Econometric Reviews* 24 (2): 151–173. doi:10.1081/ETC-200067895.
- Breusch, T. S., and A. R. Pagan. 1980. "The Lagrange Multiplier Test and Its Applications to Model Specification in Econometrics." *Review of Economic Studies* 47 (1): 239–253. doi:10.2307/2297111.
- Chan, Y. W., and B. Womack. 2016. "Not Merely a Border: Borderland Governance, Development and Transborder Relations in Asia." *Asian Anthropology* 15 (2): 95–103. doi:10.1080/1683478X.2016.1214352.
- Chansarn, S. 2014. "The Evaluation of the Sustainable Human Development: A Cross-Country Analysis Employing Slack-Based DEA." *Procedia Environmental Sciences* 20.: 3–11. doi:10.1016/j.proenv.2014.03.003.
- Choi, I. 2001. "Unit Roots Tests for Panel Data." *Journal of International Money and Finance* 20 (2): 229–272. doi:10.1016/S0261-5606(00)00048-6.
- Ciborra, C., and D. D. Navarra. 2005. "Good Governance, Development Theory, and Aid Policy: Risks and Challenges of E-government in Jordan." *Information Technology for Development* 11 (2): 141–159. doi:10.1002/itdj.20008.
- Cuong, V. N., T. G. Long, N. T. Anh, and T. D. Huyen. 2021. "Do Good Governance and Public Administration Improve Economic Growth and Poverty Reduction? The Case of Vietnam." *International Public Management Journal* 24 (1): 131–161. doi:10.1080/10967494.2019.1592793.
- Dumitrescu, E. I., and C. Hurlin. 2012. "Testing for Granger Non-Causality in Heterogeneous Panels." *Economic Modelling* 29 (4): 1450–1460. doi:10.1016/j.econmod.2012.02.014.
- EU Official Webpage. 2001. "European governance a white paper." Brussels. https://ec.europa.eu/commission/presscorner/detail/en/DOC_01_10
- Göçer, İ., M. Mercan, and H. Hotunluoğlu. 2012. "Sustainability of the Current Account Deficit in Selected OECD Countries: Panel Data Analysis with Multiple Structural Breaks under Cross Section Dependence." *Journal of Finance* 163: 449–467.
- Graham, J., A. Bruce, and P. Tim. 2003. *Principles for Good Governance in the 21st Century*. Policy Brief No.15. Ottawa, Canada: Institute on Governance (IOG).
- Granger, C. W. J., and P. Newbold. 1974. "Spurious Regressions In Econometrics." *Journal of Econometrics* 2 (2): 111–120. doi:10.1016/0304-4076(74)90034-7.
- Gujarati, D. N. 1999. *Basic Econometrics*, Translated by Ü. Şenesen and G. G. Şenesen. İstanbul: Literatür Publications.
- Günay, E., H. Ağır, and S. Türkmen. 2018. "Empirical analysis of the effect of R&D expenditures on economic growth." 5th International Congress on Political, Economic and Social Studies (ICPESS), Niğde - Turkey, October 26-29. Bildiriler Kitabı Volume 2: Ekonomik Araştırmalar, 90–102.
- Hadri, K. 2000. "Testing for Stationarity in Heterogenous Panels." *Econometrics Journal* 3 (2): 148–161. doi:10.1111/1368-423X.00043.
- Harttgen, K., and S. Klasen. 2012. "A Household-Based Human Development Index." *World Development* 40 (5): 878–899. doi:10.1016/j.worlddev.2011.09.011.
- Holzer, M., and B.-J. Kim, eds. 2002. *Building Good Governance: Reforms in Seoul*. National Center for Public Productivity. Preface, Seoul - the Republic of Korea.
- Im, K. S., M. H. Pesaran, and Y. Shin. 2003. "Testing for Unit Roots in Heterogenous Panels." *Journal of Econometrics* 115 (1): 53–74. doi:10.1016/S0304-4076(03)00092-7.
- Kar, M., H. Ağır, and S. Türkmen. 2019. "Panel Econometric Analysis of the Effect of Electricity Consumption on Economic Growth in Selected Developing Countries." *Journal of International Econometric Researches* 5 (3): 37–48.

- Kaufmann, D. 2005. "Myths and realities of governance and corruption (November 2005)". 55–57. <https://ssrn.com/abstract=829244>
- Keser, A. 2018. *Globalization, Governance and New Public Management (Factors Affecting the Spread of Regulatory Bodies)*. İstanbul: Kriter Publishing House.
- Keser, A., and Y. Gökmen. 2017. "Governance and Human Development: The Impacts of Governance Indicators on Human Development." *Journal of Public Administration and Governance* 8 (1): 26–39. doi:10.5296/jpag.v8i1.12336.
- Larsson, J. P., and P. Thulin. 2019. "Independent by Necessity? The Life Satisfaction of Necessity and Opportunity Entrepreneurs in 70 Countries." *Small Bus. Econ* 53 (4): 921–934. doi:10.1007/s11187-018-0110-9.
- Levin, A., C. F. Lin, and C. S. J. Chu. 2002. "Unit Root Tests in Panel Data: Asymptotic and Finite Sample Properties." *Journal of Econometrics* 108 (1): 1–24. doi:10.1016/S0304-4076(01)00098-7.
- Maddala, G. S., and S. Wu. 1999. "A Comparative Study of Unit Root Tests with Panel Data and A New Simple Test." *Oxford Bulletin of Economics and Statistics* 61 (S1): 631–652. doi:10.1111/1468-0084.0610s1631.
- Owen, S., and Y. Alfred. 2010. "Human Development and Cross-border Acquisitions." *Journal of Empirical Finance* 17 (4): 689–701. doi:10.1016/j.jempfin.2010.03.004.
- Pesaran, M. H. 2004. "General diagnostic tests for cross section dependence in panels." *CESifo Working Paper Series No. 1229*. IZA Discussion Paper No. 1240.
- Pesaran, M. H. 2006. "Estimation and Inference in Large Heterogeneous Panels with a Multifactor Error Structure." *Econometrica* 74 (4): 967–1012. doi:10.1111/j.1468-0262.2006.00692.x.
- Pesaran, M. H. 2007. "A Simple Panel Unit Root Test in the Presence of Crosssection Dependence." *Journal of Applied Economics* 22 (2): 265–312. doi:10.1002/jae.951.
- Pesaran, M. H., L. V. Smith, and T. Yamagata. 2013. "Panel Unit Root Test in the Presence of a Multifactor Error Structure." *Journal of Econometrics* 175 (2): 94–115. doi:10.1016/j.jeconom.2013.02.001.
- Pesaran, M. H., A. Ullah, and T. Yamagata. 2008. "A Bias-Adjusted LM Test of Error Cross-Section Independence." *Econometrics Journal* 11 (1): 105–127. doi:10.1111/j.1368-423X.2007.00227.x.
- Pesaran, M. H., and T. Yamagata. 2008. "Testing Slope Homogeneity in Large Panels." *Journal of Econometrics* 142 (1): 50–93. doi:10.1016/j.jeconom.2007.05.010.
- Phillips, P. C. B., and S. Donggyu. 2003. "Dynamic Panel Estimation and Homogeneity Testing under Cross Section Dependence." *Econometrics Journal* 6 (1): 217–259. doi:10.1111/1368-423X.00108.
- Rachisan, P. R., C. Bota-Avram, and A. Grosanu. 2017. "Investor Protection and Country-Level Governance: Cross-Country Empirical Panel Data Evidence." *Economic Research-Ekonomska Istraživanja* 30 (1): 806–817. doi:10.1080/1331677X.2017.1311226.
- Reese, S., and J. Westerlund. 2016. "Panicka: Panic on Cross-Section Averages." *Journal of Applied Econometrics* 31 (6): 961–981. doi:10.1002/jae.2487.
- Song, A. M., A. S. Cisneros, O. Temby, J. Sandall, R. W. Cooksey, and G. M. Hickey. 2019. "On Developing an Inter-Agency Trust Scale for Assessing Governance Networks in the Public Sector." *International Public Management Journal* 22 (4): 691–710. doi:10.1080/10967494.2017.1370047.
- Sözen, S., and B. Algan. 2009. "Good Governance." *Ministry of Interior General Publication No: 654*: 1–99.
- Tekeli, İ. 1996. "On the Reasons for the Development of the Concept of Governance Besides the Management Concept." *Social Democratic Change* 3: 45–54.
- Thomas, C. 2001. "Global Governance, Development and Human Security: Exploring the Links." *Third World Quarterly* 22 (2): 159–175. doi:10.1080/01436590120037018.
- Torres, P., and M. Augusto. 2020. "Digitalisation, Social Entrepreneurship And National Well-Being." *Technological Forecasting and Social Change* 161: 1–8. doi:10.1016/j.techfore.2020.120279.
- Turkic Council Official Webpage. 2020. "Turkic Council 1st Summit." *Organization History*. <https://www.turkkon.org/tr/organizasyon-tarihcesi>
- Türkmen, S., H. Ağır, and E. Günay. 2019. "R&D and Economic Growth in Selected OECD Countries: New Evidence from the Panel Cointegration Approach." *Journal of Knowledge Economy and Management* 14 (2): 89–101.
- UNDP (United Nations Development Programme). 1994. "Governance for sustainable human development." *A UNDP Policy Paper, UNDP 1994 Initiatives for Change*. <http://mirror.undp.org/magnet/policy/chapter1.htm>
- UNDP (United Nations Development Programme). 1997a. *Human Development Report 1997*. New York: Oxford University Press.
- UNDP (United Nations Development Programme). 1997b. "Governance for sustainable human development, governance-related UNDP documents." *UNDP Governance policy paper*.
- UNDP (United Nations Development Programme). 2020. "Human development reports." <http://hdr.undp.org/en/content/human-development-index-hdi>
- World Bank. 1992. *Governance and Development*. Washington DC: World Bank.
- World Bank. 2020. "Worldwide governance indicators." <http://info.worldbank.org/governance/wgi/Home/Reports>
- Yıldırım, K., M. Mercan, and S. F. Kostakoğlu. 2013. "Testing Purchasing Power Parity Validity: Time Series and Panel Data Analysis." *Eskisehir Osmangazi University Journal of FEAS* 8 (3): 75–95.
- Yu, K. 2015. *Essays on the Modernization of State Governance*. Beijing: Social Science Academic Press.