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BANGLADESH INSTITUTIONAL DIAGNOSTIC WP20/BDID[03]

CHAPTER 3: A CROSS-COUNTRY COMPARATIVE ANALYSIS OF INSTITUTIONAL INDICATORS: WHERE DOES BANGLADESH STAND?

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1 Introduction

Since the pioneering work of North (1990) there has been widespread agreement that institutions matter for development. Narratives have described some features of the relationship between institutions and development and theoretical models of that relationship have been proposed that fit some stylised facts, often drawn from history. Numerous authors could be cited but Acemoglu and Robinson (2012), Khan (2012, 2018), or more recently Pritchett *et al*. (2018), are prominent examples of the first approach, while Acemoglu and Robinson (2008) are a good example of the second. Going beyond this approach and getting into more detail on the nature and the quality of institutions requires the availability of qualitative or quantitative indicators describing them. Such country-level indicators and indices have been developed over the last two or three decades, which has given rise to an empirical cross-country literature exploring the relationship between institutions (as described by some of these indicators) and particular characteristic of economic development (primarily the level and growth rate of gross domestic product (GDP)). Knack and Keefer (1995), Acemoglu *et al.* (2001), and Rodrik *et al*. (2004) were the first notable attempts in this direction.

While relying on the same type of data, i.e. the existing databases of institution-oriented indicators, the objective of this chapter is somewhat different. Focusing on a single country, Bangladesh, its main objective is to characterise its institutional profile as reflected in available indicators, and to see what its absolute and relative strengths and weaknesses are.

This will be done in three ways. First, relying on the most complete repository of indicators, the University of Gothenburg's Quality of Government database (Dahlberg, *et al*., 2020), six aggregate indicators will be defined, and countries, both advanced and developing, will be ranked according to each of them. The quality of Bangladeshi institutions will then be analysed according to each aggregate indicator taking into account each of the individual indicators that make up that aggregate indicator.. Because all of these indicators are closely related to economic development, as measured for instance by GDP per capita, the second question that will be asked is how far away Bangladesh is from what could be considered an international norm: that is, the level of each aggregate indicator that corresponds to Bangladesh's level of GDP per capita. To some extent, this is equivalent to comparing Bangladesh to countries with more or less the same level of income. The same comparison will be made with geographical neighbours or countries that have outperformed Bangladesh over the last two or three decades, despite being initially at the same level of development. Finally, the time evolution of the institutional quality of Bangladesh will be analysed by relying on a database that makes it possible to cover the last three decades.

Summarising the various findings, Bangladesh's institutional profile as indicated by institutional indicators will be summarised in the conclusion of the chapter. The general diagnostic is that Bangladesh ranks uniformly rather badly in many institutional dimensions. Given its high-growth performance, the so-called 'Bangladesh paradox' or 'Bangladesh surprise' of this combination of under-performing institutions and over-performing economy underlined by several observers (World Bank, 2007a; 2007b; 2010; Mahmud *et al.*, 2008; Asadullah *et al*., 2014) is worth serious investigation. It should be kept in mind, however, that the institutional part of this paradox relies on indicators that are essentially imprecise and that can only give a rough description of the nature of institutions in a given country.

2 Constructing synthetic institutional indices

There now are many databases with sets of indicators that seek to describe the quality of various aspects of a country's political, sociological, and economic institutions. Well-known databases of this type include the Worldwide Governance Indicators, the Logistics Performance Index, Doing Business, the Global Competitiveness Index, and the International Country Risk Guide (ICRG), or Polity IV. Several single indicators have also become a key reference, for instance the Transparency International corruption index. The Quality of Government is a repository of institutional indicators present in all these databases. As such, it comprises more than 2,000 indicators over a period that extends from 1949 to 2018 for some indicators and some countries. However, it would not make sense to use every indicator to study the profile of one specific country in comparison to others. Moreover, there are many missing observations. Instead, the technique used here has been to develop a small number of synthetic institutional indices that aggregate individual indicators in the database with similar distributions across countries at a given point of time – the year 2016. A method of clustering a subset of indicators simultaneously available for the largest number of countries into a pre-determined number of groups – i.e. clusters – was used. The data selection procedure ended up with a set 97 indicators available in 105 countries – both developed and developing. The clustering method is based on the correlation across indicators in the cluster using the country values of indicators as observations. It thus consists of minimising the variance across indicators within clusters and maximising the variance between clusters. A synthetic index is then associated with the cluster by using a linear combination of all indicators in the cluster. The coefficients of the first axis in a principal component analysis (PCA) of all indicators in the cluster were used. They thus maximise the cross-country variance explained by the synthetic index.

The main parameter in the hands of someone using clustering methods is the number of clusters. In the present case, it was decided to stay with six clusters, and thus six synthetic indices, for both practical reasons and to ensure consistency. The practicality requirement refers to the need to be able to visualise and compare observations across a multidimensional space, which requires minimising the number of clusters. Consistency requires differentiating as much as possible the synthetic indices, while making it possible to give some clear indication of their meaning. Indeed, each cluster may include very different indicators, without an obvious common link between them, although the fact that they are correlated suggests that such a link must exist. However, it turns out that if the number of clusters is increased, it makes it increasingly difficult to identify such a link. In the present case, it also turned out that the six synthetic indices were in rough agreement with the main themes of the institutional diagnostic survey undertaken in this research project, the results of which are analysed in the next chapter.

The six clusters or groups of indicators that were selected by the procedure just described appear in Table 1. For each group, this table shows the number of original indicators it aggregates, the common thematic orientation of the corresponding synthetic index (i.e. the label that will be used in the rest of this chapter), and the percentage of variance captured by the first principal component within each group.

Table 1: Description of the six groups of indicators

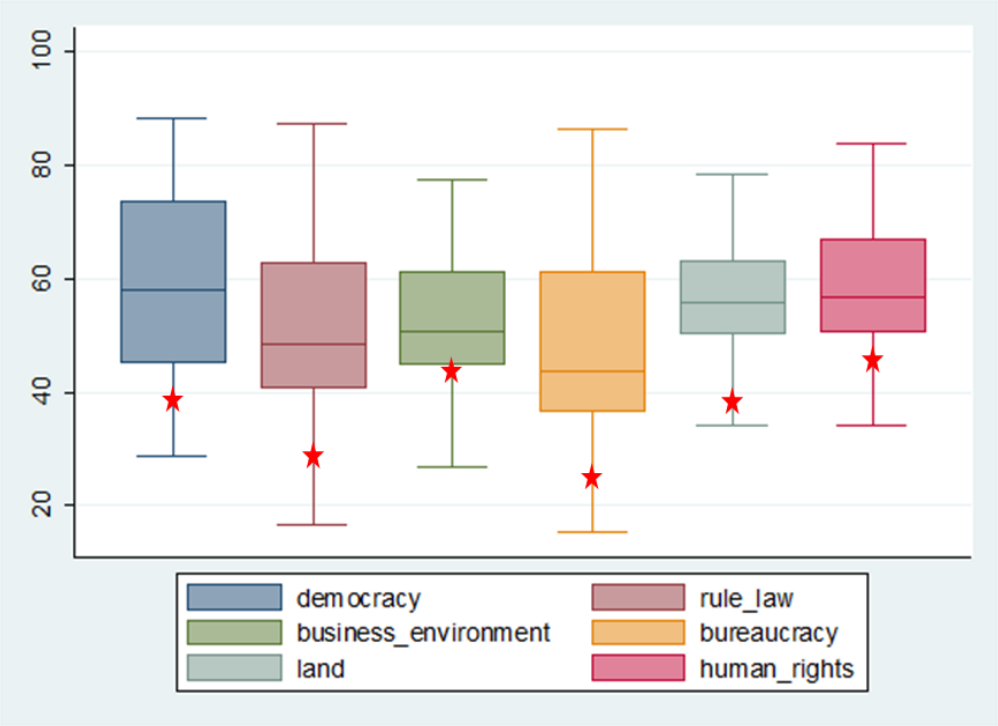
Group	Number of indicators	Label of the synthetic index	Variance captured by the first principal component within the group
G1	22	Democracy	57.21%
G2	14	Rule of law	73.46%
G3	23	Business environment	68.47%
G4	9	Bureaucracy	79.30%
G5	8	Land	38.72%
G6	11	Human rights	54.84%

Source: Authors' own calculation, based on principle component analysis of the six constructed synthetic database. The complete synthetic institutional index is presented in Annex B.

The list of individual indicators summarised by the synthetic indices appears in Annex A of this chapter. Under the heading *democracy* are found indicators describing the political regime, its effectiveness, pluralism, stability, or transparency. The *rule of law* heading comprises indicators describing the effectiveness of the legal framework, the judiciary system, the control of corruption, and the quality of economic regulation. *Business environment*, not surprisingly, includes the quality of business infrastructure and the market context in which firms operate. *Bureaucracy* describes the quality of the administration and some public services. *Land* does not cover many indicators because it turns out to be more focused than other synthetic indices. Finally, *human rights* comprises indicators of a more social nature, i.e. education, healthcare, and civil liberties, including freedom of expression.

The score and rank of the 105 countries in the data sample along the six synthetic indices, as well as the way they were obtained, is also reported in Annex B of this chapter. Each individual indicator was linearly normalised for its value to range between 0 and 100, but of course their distribution across countries, including their mean and median, is not the same. When combining them within a synthetic index using PCA the mean and the distribution of the latter may differ across indices. This is illustrated in Figure 1, where it is shown that the mean and median of the democracy, land, and human right indices are above those of rule of law, bureaucratic quality, and business environment. To the extent that the value of individual indicators is not necessarily comparable among themselves, this result is not of major importance for our purposes. Instead, we now focus on the relative position of Bangladesh across the six-dimensional space of the synthetic indices.

Figure 1: Distribution of the synthetic indices



Note: The red star indicates Bangladesh's position

For each synthetic index, the figure shows the limits of the four quartiles of its distribution among countries, the bottom and top whiskers corresponding to the bottom and top quartiles, and the horizontal segment within the central box, the median, separating the second and third quartiles.

Source: Authors

3 Bangladesh's position in the global ranking of synthetic institutional indices

This section summarises Bangladesh's relative position in the synthetic institutional indices compared to the top and bottom performing countries of the world. This is done in two ways. First, Bangladesh's synthetic indices' values are reported in Figure 1, to show where the country stands among the whole set of countries. Second, Table 2 shows the countries that are close to Bangladesh in the ranking, corresponding to each index, in order to gain a more qualitative view of how Bangladesh compares to other countries. In a second step, the focus will be on the individual institutional indicators that seem to be the most responsible for Bangladesh's relative position according to each synthetic index. Finally, the same intercountry comparison will be made while controlling by the GDP per capita of all countries, as a very rough indicator of their economic development.

3.1 How does Bangladesh compare to other countries according to the synthetic institutional indices?

According to Figure 1, Bangladesh's relative performance in the global ranking, established on the basis of the synthetic institutional indices, is rather uniformly mediocre, as it systematically ranges in the lowest quartile – as a matter of fact, even in the lowest quintile of the global ranking. The situation is even worse for the *rule of law*, *bureaucratic quality*, and *land* synthetic indices, where Bangladesh ranks in the bottom 5% or close to it. Its position on *human rights* is only slightly less disastrous, as it still lies at the upper limit of the bottom 10%. In short, it is only on *democracy* and *business environment* that Bangladesh gets somewhat away from the very bottom of the global ranking. This is an interesting finding since it allows us to differentiate the relative quality of Bangladeshi institutions with respect the nature of these institutions. It will be shown later that this conclusion resonates rather well with other evidence or judgements about Bangladeshi institutions.

Table 2 shows the countries that are ranked close to Bangladesh in the various synthetic indices, the idea being to see whether they share some common features besides their institutional ranking. Diversity is clearly the dominant factor here. There is little regional alignment, except the presence of Pakistan in democracy and land, something that can be linked to the common past with Bangladesh, first as British colonies and then as two parts of the same political entity. Several Middle Eastern and North African countries appear in the list, with no obvious geographical, historical, or political similarity with Bangladesh. Finally, many low-income sub-Saharan countries are present, but this may perhaps reflect more the relatively large number of countries in that region of the world, their low income, and their absence of efficient institutions.

Table 2: Ranking of the countries around Bangladesh for each summary index in 2016

Democracy		Rule of law		Business environment		Bureaucracy		Land		Human rights	
84	Kuwait	98	Zimbabwe	82	Zambia	94	Argentina	99	Haiti	93	Zimbabwe
85	Jordan	99	Ukraine	83	Senegal	95	Lebanon	100	Algeria	94	Liberia
86	Nigeria	100	Madagascar	84	Jamaica	96	Dominican Republic	101	Madagascar	95	Tanzania
87	**Bangladesh**	101	**Bangladesh**	85	**Bangladesh**	97	**Bangladesh**	102	**Bangladesh**	96	**Bangladesh**
88	Pakistan	102	Myanmar	86	Guyana	98	Zimbabwe	103	Guinea	97	Algeria
89	Lebanon	103	Haiti	87	Iran	99	Madagascar	104	Nigeria	98	Egypt
90	Algeria	104	Guinea	89	Paraguay	100	Guinea	105	Pakistan	99	Venezuela

Source: Authors' own calculation, based on the synthetic institutional indices

Note: This ranking is performed for 105 countries. The complete synthetic institutional index is presented in Annex B.

The most striking feature of Table 2 is the absence of countries with a growth record as strong as Bangladesh's over the last few decades: on the contrary, several countries show rather inferior performance. Likewise, only one country (i.e. Thailand) would qualify as a manufacturing exporter (like Bangladesh). All other countries are typical commodity exporters, except Jordan and Lebanon, and four of them are major oil exporters – Algeria, Nigeria, Kuwait, and Iran. These observations reinforce the idea that there is a 'Bangladesh paradox': a fast-growing manufacturing exporter with institutional quality comparable with slow-growing commodity exporters, including oil exporters. It will be seen later in this study that the latter analogy echoes the fact that ready-made goods (RMG) manufacturing exports in Bangladesh may indeed play a role in the economy and the society similar to that played by raw commodity exports in other developing countries.

3.2 Major institutional weaknesses of Bangladesh in the synthetic institutional indices

Table 3 shows those individual indicators in each synthetic cluster on which Bangladesh performs substantially less well compared to the others, i.e. the mean of the cluster. For instance, in *democracy* it performs particularly poorly on the following indicators: the presence of 'fractionalised elites', the lack of 'public trust in politicians', and the strength of the 'political competition'. Likewise, in the *rule of the law*, it can be seen that the 'corruption perception index' plays an important role in bringing Bangladesh's overall score down, the same being true of the overall evaluation of the 'judicial independence' and the 'inefficiency of the legal framework'.

Given the clustering procedure that was applied in defining the synthetic institution indices, it may be the case that some individual indicators do not fit the label attributed to the cluster very well. For instance, in *business environment* some indicators refer more to the behaviour of firms, like 'spending on research and development (R&D)' or 'production sophistication' than their environment, although particularly negative indicators there include 'customs', 'infrastructure', and 'lack of competition'. In the same way, it might be considered that 'irregular payments and bribes' would belong more to the *rule of the law* than *bureaucratic quality* – but the fact that it appears in the latter cluster clearly shows that this infringement of the rule of the law is closely linked to unsatisfactory 'public services' and 'favouritism by government officials', and therefore to an under-performing bureaucracy.

Table 3: Major areas of weaknesses in each synthetic institutional index

Synthetic institutional index	Major areas of weaknesses
Democracy	Political stability; Government effectiveness; Public trust in politicians; Transparency of government policymaking; Factionalised elites; State fragility; Political pressures and controls on media content; Political competition
Rule of law	Efficiency of legal framework in challenging regulations; Efficiency of legal framework in settling disputes; Judicial independence; Strength of auditing and reporting standards; Corruption perception
Business environment	The efficiency of the clearance process by border control agencies, including customs; Quality of trade and transport-related infrastructure; Competence and quality of logistics services; Ability to track and trace consignments; Taxation on investment; Financial market development; Labour market efficiency; Production process sophistication; University–industry collaboration in R&D; Capacity for innovation; Company spending on R&D; Venture capital availability; Intellectual property protection
Bureaucracy	Public services; Favouritism in decisions of government officials; Irregular payments and bribes; Wastefulness of government spending;
Land	Land administration and management; Registering property;
Human rights	Voice and accountability; Freedom of expression; Protection of minority investors' rights; Ethical behaviour of firms

Source: Authors, based on the synthetic institutional Indices

Table 3 could also have shown the individual indicators with scores above the mean of the synthetic indicator. These are easily identified by comparing the entries in Table 3 with the list of individual indicators in each cluster in Annex A. Thus, it is worth stressing that, the low government militarisation index, and the 'autonomy' of the government, do not do as badly as other indicators. However, they do not necessarily do well either. Transparency or press freedom may be above the mean score of 'democracy', but that score is low, and those indicators are simply less low in the global ranking. Yet it may be worth keeping this kind of nuance in mind.

Another interesting point is the relative lack of consistency of various sources on the same topic. For instance, 'rule of law' as evaluated by Freedom House[1] is above the mean in the synthetic *rule of law* index, whereas 'rule of law' as evaluated by the Quality of Government[2] falls below the mean. Clearly, this kind of discrepancy shows the unavoidable imprecision of these individual estimators – sometimes themselves based on several sources – and underlines the need to be cautious in interpreting these results.

[1] Freedom House assesses the condition of political rights and civil liberties around the world. It is composed of numerical ratings and supporting descriptive texts for 195 countries and 15 territories. See https://freedomhouse.org/report/freedom-world

[2] The 'rule of law', evaluated by the Quality of Governance, is drawn from the Bertelsmann Stiftung's Transformation Index, which analyses and evaluates the quality of democracy, a market economy, and political management in 129 developing and transition countries. It measures successes and setbacks on the path towards a democracy based on the rule of law and a socially responsible market economy. See www.bti-project.org/en/home/

4 Bangladesh vs. its neighbouring and comparator countries: a comparative analysis of the synthetic institutional indices

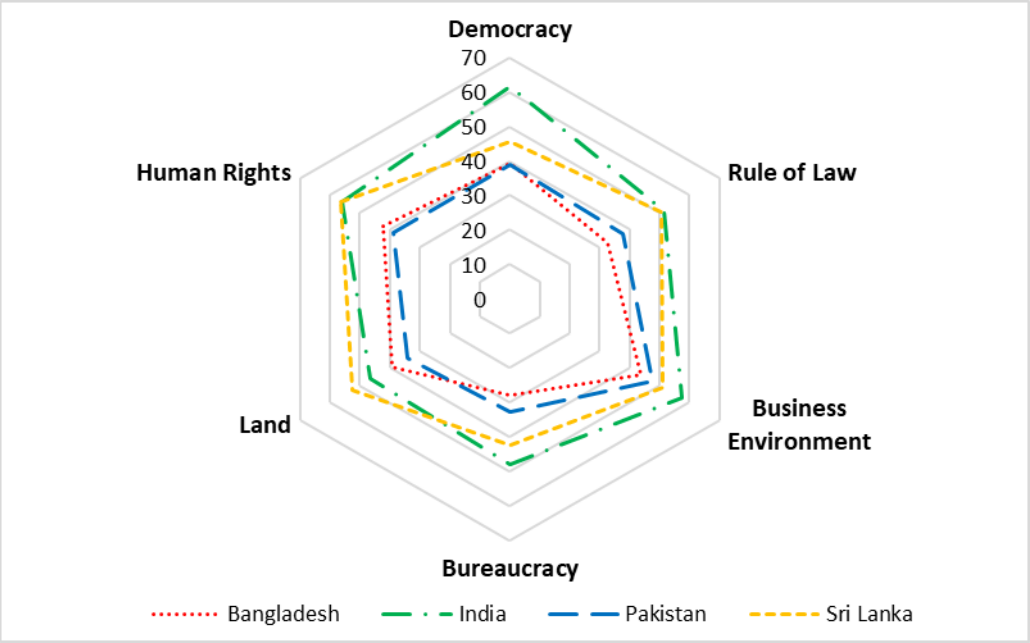
In this section Bangladesh's institutional quality is compared with several neighbouring and comparator countries based on the synthetic institutional indices used in the preceding section. The comparator countries have been selected on the *a priori* criteria of geographical – and implicitly cultural – proximity and development strategies.

- First, Bangladesh is compared to the neighbouring countries due to the similarity in historical background, geographical location, natural environment, comparative advantage, or economic and political aspects. The question is whether such multidimensional proximity entails institutional homogeneity, and if it does not, where the differences are. The Asian neighbouring countries selected for comparison are India, Pakistan, and Sri Lanka.
- Second, another set of comparable countries have either similar growth trends to those of Bangladesh or had similar trends in the past and are now doing better. These include Vietnam and China, which also share with Bangladesh being primarily manufacturing exporters. Another selected comparator country is Indonesia, because of its similarity with Bangladesh in terms of institutional tradition and major religion. Tanzania has also been considered in the analysis because of comparable growth trends in a different region and with a different development strategy.

Figure 2 shows the comparison of Bangladesh with neighbouring countries with respect to the six synthetic indicators, in radar charts. Although these countries share a somewhat similar institutional tradition with Bangladesh, a closer review of the synthetic indices reveals that both Bangladesh and Pakistan are significantly lagging behind India and Sri Lanka in all the institutional aspects covered by the indices. Sri Lanka's dominance is unsurprising given that this country is well ahead of the others in terms of development, using GDP per capita as a metric. The absolute dominance of India over Pakistan and Bangladesh is more surprising.

Concerning Bangladesh and Pakistan, it turns out that, as expected, the two countries are very close to each other on the six synthetic indices, with the former slightly outweighing the latter in *human rights* and *land*, being equal in *democracy*, and lagging behind it on the two other indices.

Figure 2: Synthetic indicators: Bangladesh vs. neighbouring countries in 2016

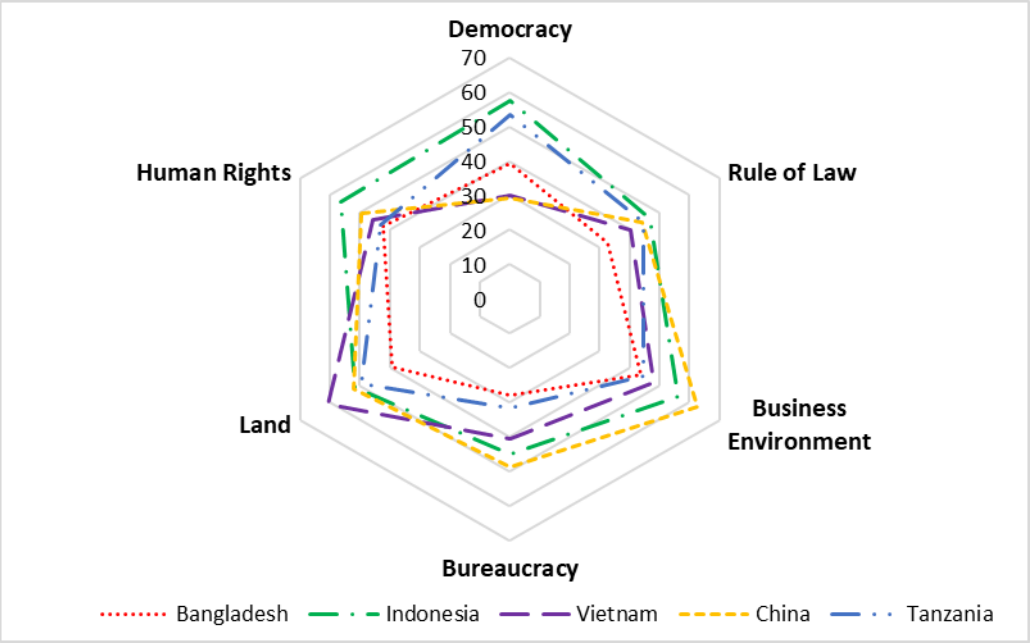


Source: Authors' own calculation, based on the synthetic institutional index

Figure 3 shows the relative position of Bangladesh in the synthetic institutional index compared to the second set of comparator countries. Here, Bangladesh would again be far behind by all of the other countries with respect to the six synthetic indices if it were not for the lack of democracy in China and Vietnam. With respect to both Indonesia and Tanzania, however, Bangladesh is behind, generally by a wide margin, except on *human rights* and *business environment* as regard Tanzania. When compared to China and Vietnam, the two other manufacturing exporters, their lead is also by a wide margin, except for *democracy*, as mentioned earlier, and *human rights*, an institutional dimension that is related to democracy.

The comparison with China, Indonesia, and Vietnam yields unsurprising results as these countries are more advanced that Bangladesh in their development process. The comparison is nevertheless ambiguous as these countries may have better economy-oriented institutions now because they have already achieved more development progress, or also because those same institutions were better 20 or 30 years ago, when the countries were at the same level of development as Bangladesh. The same ambiguity does not arise with Tanzania and it is striking to see that a country with a level of GDP per capita lower than Bangladesh but a comparable rate of growth – at least until 2015 – is doing so much better on all institutional fronts.

Figure 3: Synthetic indicators: Bangladesh vs. comparator countries in 2016



Source: Authors' own calculation, based on the synthetic institutional index

It would have been possible to also look at the issue of institutional advantage in the other direction. Are there countries among the 105 countries used to construct the synthetic indices that lag behind Bangladesh in all institutional dimensions? The answer is a single country, Guinea. And if we restrict the comparison to five dimensions, Bangladesh appears superior to only three other countries: Haiti, Myanmar, and Venezuela. No additional country would come up if the comparison was restricted to four dimensions. All this confirms that, despite its economic growth achievements, Bangladesh's institutional development is seriously lagging.

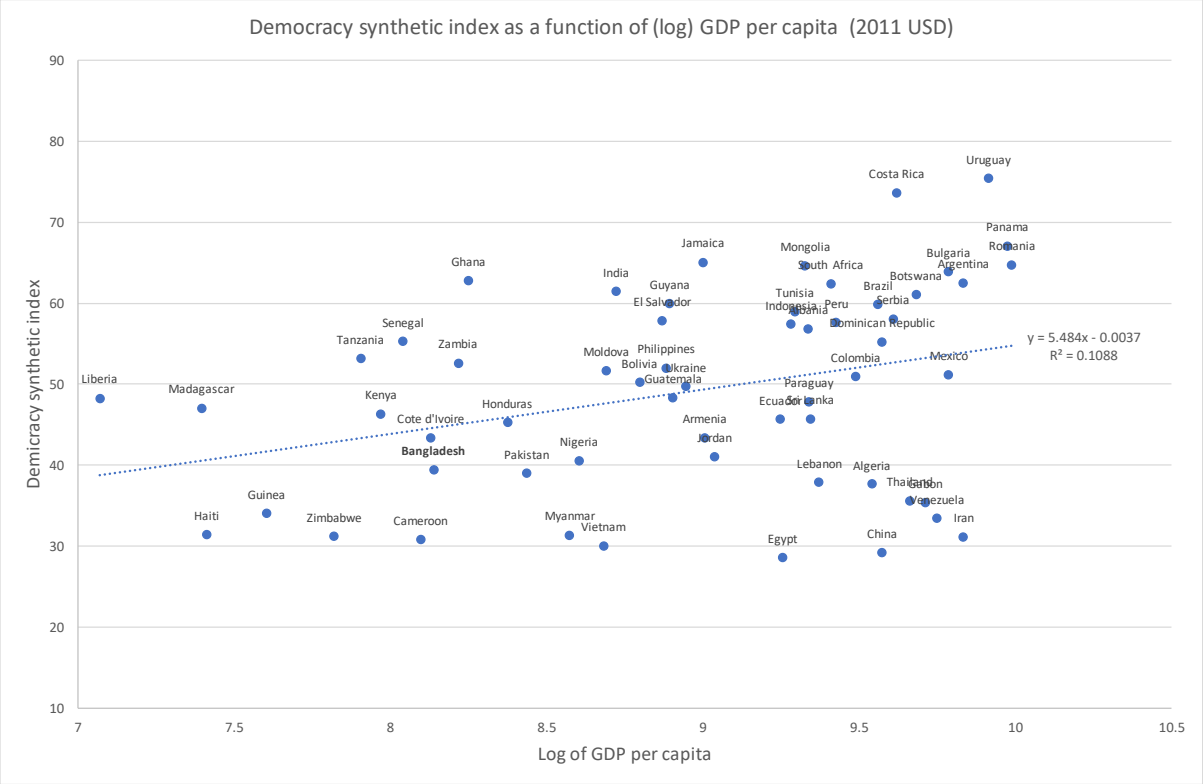
5 Is Bangladesh an outlier in the institution–development nexus?

The preceding comparisons of Bangladesh with other countries were based on *ad hoc* criteria, whereas the analysis of its global ranking is biased because of the presence of so many countries at higher level of development. A relevant comparison may be to match Bangladesh with countries at similar levels of development and to see whether it does so badly, and in what dimension of the synthetic institutional indices.

To do this, a simple approach consists of running a regression of the various institutional indices on a development index of the countries and to test whether Bangladesh is an outlier on the negative side, i.e. exhibiting a negative gap greater than 2 standard deviations, as usually defined in econometric work. Two definitions of the level of development have been used: GDP per capita – measures in international 2011 dollars – and the Human Development Index (HDI), used by the United Nations, which comprises not only GDP per capita after normalisation but also measures of education and health. To avoid this procedure having to depend too much on the relationship between institutions among advanced countries, or on the difference between developing and advanced countries, the estimation is performed on developing countries only.

Figure 4 shows the scatter plot of the democracy synthetic index against the log of GDP per capita for developing and emerging countries, with a trend line that represents the predicted value of the democracy synthetic index on the basis of GDP per capita. It can be seen that Bangladesh lies below the line, which means that, conditionally on its level of GDP per capita, Bangladesh underperforms on that index. Yet the gap with respect to the trend line is not sizeable, which means that Bangladesh cannot be considered an outlier in comparison with other observations. In other words, there is nothing exceptional in such a deviation from the trend line. This would not be true, however, of China, Iran, or Egypt, because their gap with respect to the trend line is larger than twice the standard deviation of that gap among all observations.

Figure 4: Scatter plot of the democracy synthetic index against (log) GDP per capita



Source: Authors, based on the synthetic institutional index

Table 4: Normalised deviation of Bangladesh from predicted synthetic indices based on GDP per capita and HDI

	Democracy	Rule of law	Business env.	Bureaucracy	Land	Human rights
Deviation from GDP norm	-0.44	-0.82	0.24	-0.72	-1.19	-0.74
Deviation from HDI norm	-0.53	-0.93	0.04	-0.84	-1.43	-0.91

Note: GDP (HDI) norm = predicted value of the regression of synthetic indices on log GDP per capita (HDI)

Deviations are standardised by standard deviation of residuals

Source: Authors, based on the synthetic institutional index

Table 4 summarises the results obtained for the six synthetic indices using GDP per capita or the HDI as normalising device. Because the deviation of Bangladesh from the norm never exceeds 2 standard deviations, it cannot be said that Bangladesh is an outlier in any institutional dimension. What is striking, however, is that, conditionally on its level of development, Bangladesh always underperforms. In other words, it cannot be said that Bangladesh's bad position in the global institutional ranking shown in Figure 1 is due to its level of development, as measured by GDP per capita or the HDI. Even controlling for this – that is, even comparing it with countries at a comparable level of development – Bangladesh

is under-performing. This is true for all institutional indices except one, *business environment*, for which Bangladesh is slightly above the norm. Indeed, it was on this index that it reached the highest position in the global ranking discussed earlier.

6 Evolution of institutions in Bangladesh

To conclude this review of Bangladesh's performance according to existing institutional indicators, Figure 5 shows the evolution of institutional quality in Bangladesh since 1984, using the various components of the ICRG set of indicators for the Political Risk System group. It was indeed impossible to perform all the preceding analyses at different points of time because of missing data problems, and focusing on a single set of indicators was the only way to analyse the evolution of Bangladesh's institutions over time, with the ICRG offering the longest series.

Figure 5 presents normalised (between zero and 100) 12 ICRG indicators for which the higher the value the better is the position.[3] Panel A in Figure 5 shows the ICRG indicators that resemble the synthetic indicators analysed earlier. The striking feature here is the general improvement of institutions over time. All indicators are higher in 2016 than they were in 1984. Another obvious feature of the chart is its consistency with the political history of Bangladesh, as briefly summarised in Chapter 1. This is particularly true of the 'government stability indicator', which increases after 1990, when the country moves to the 'competitive democracy' era, and which then stabilises when it enters the dominant party era. 'Military in politics' reflects the end of the General Ershad era in 1990, and quickly stabilised after 1995. The progress of the 'bureaucratic quality' is also impressive and closely follows 'government stability'. Overall, the 'investment climate' seems to be the most stable indicator over the whole 30-year period

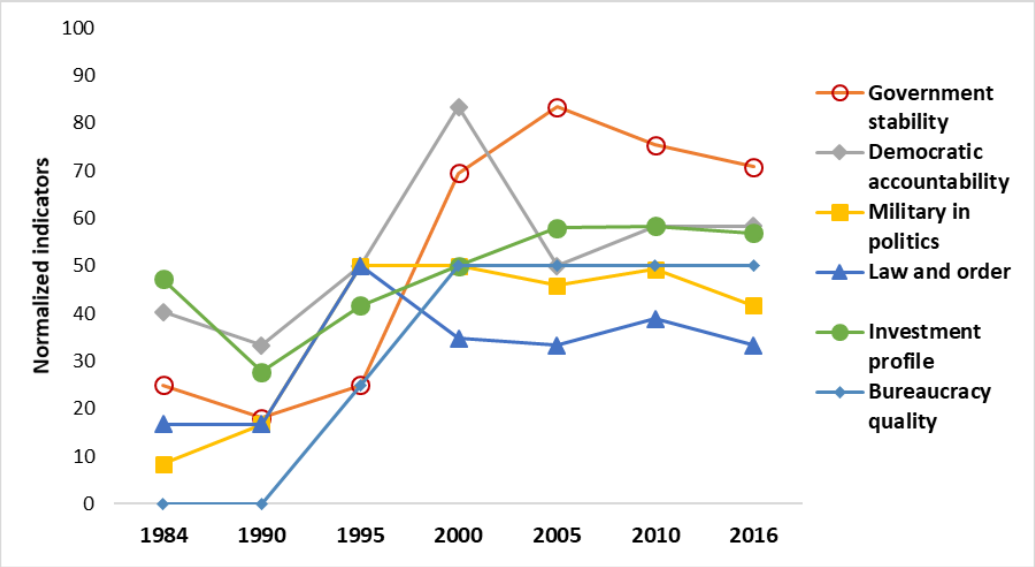
Panel B shows ICRG indicators with no direct counterpart among the synthetic indices. However, ICRG indicators are included in the construction of the synthetic indices. Unlike in Panel A, there is no general improvement of this second set of indicators. The only indicator with strong improvement over the period is the 'control of corruption', which nevertheless remains low throughout the period.

The other noticeable feature in Panel B is the surge of the 'internal tensions' and 'ethnic tensions' indicators in the late 1990s and early 2000s. This corresponds to the conflicts and tension with the indigenous inhabitants of the Chittagong Hill Tracts, which was finally settled in the mid-1990s. The drop in socioeconomic conditions since mid-1990s must be interpreted as a deterioration, with more social tensions in the 2000s.

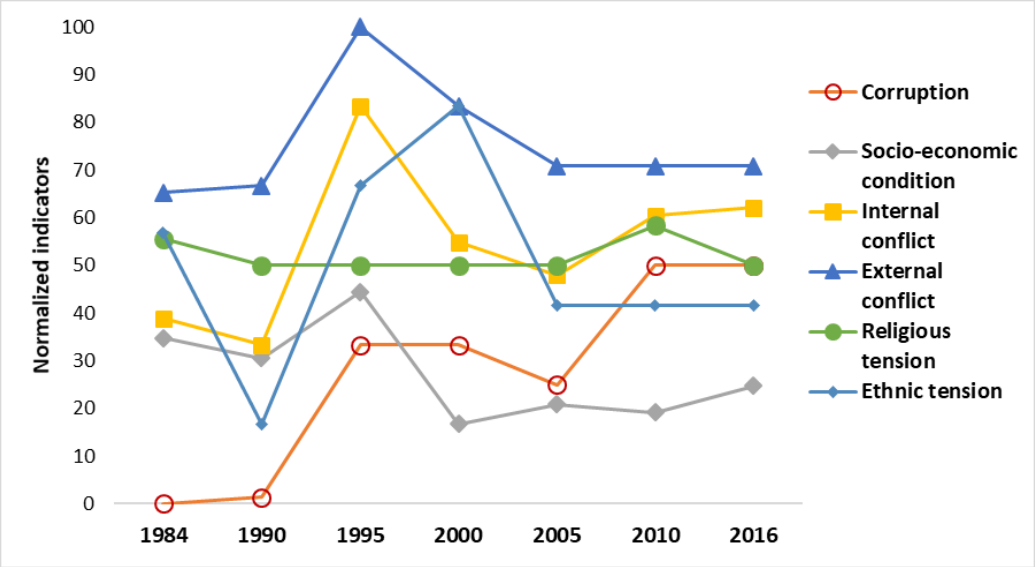
[3] See Annex A on the process of normalisation of the variables.

Figure 5: Evolution of institutional variables in Bangladesh

Panel A



Panel B



Source: Authors' own calculation, based on the ICRG Political Risk System database

7 Conclusion

Bangladesh has gone through several phases of crisis in the past. Despite numerous challenges, most indicators describing the institutional environment and the political and socioeconomic conditions have significantly improved over the last three decades, very much in line with the stabilisation of the political scene since the mid-2000s. The overall socioeconomic condition has improved. Even an indicator like control of corruption is still gradually improving today.

The situation looks less positive when comparisons are made between the current institutional context in Bangladesh and that in other countries, even when the comparison is restricted to developing countries. The synthetic institutional indices, based on a large number of individual indicators available in databases on governance and the quality of institutions, paint a broad picture of Bangladesh's institutional context that is not positive. Bangladesh is found to be in the bottom 20% of global rankings based on these indices and, in some institutional dimensions, even in the bottom 10%. As a matter of fact, despite its development achievement over the last two decades, Bangladesh is even outperformed on all institutional dimensions by several developing countries, including poorer countries.

This outperforming is not uniform, and much can be learned for an institutional diagnostic from disparities across the various institutional indices. Bangladesh appears as particularly weak in areas like *bureaucratic quality*, *rule of law*, *land issues*, and, to a lesser extent, *human rights*. However, the situation is noticeably better, though still far from outstanding, when considering the democratic functioning of the country and the business environment it offers. It is interesting that these relative institutional strengths relate to two key features of Bangladesh’s development over the last 20 years or so: the relatively stabilisation and pacification of the political game and the surge of manufacturing exports in the RMG sector.

This kind of ranking must nevertheless be treated with caution. On the one hand, Bangladesh does not appear as an outlier when the ranking is made conditional on the level of development of a country. It is still the case that it often underperforms other countries in several areas, though mostly by a narrow margin. It does better with respect to the business environment. On the other hand, it must be kept in mind that individual indicators of governance and institutional quality are necessarily rough and may miss important details that might change the overall judgement to which they lead. Relying only on them to establish a diagnostic would thus be extremely restrictive. Hence the alternative approach of surveying different types of decision makers on their perceptions of the institutional strengths and weaknesses in the context in which they operate, as is discussed in the next chapter.

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Annex A Construction of synthetic institutional indicators

A.1 Methodology for calculating weights of the synthetic index

This chapter has applied the PCA method for each pre-defined *dimension*, and calculated weights for each of the indicators within the dimension. The objective of PCA is to reduce the dimensionality (number of indicators) of the dataset but to retain most of the original variability in the data. This involves a mathematical procedure that transforms a number of possibly correlated variables into a smaller number of uncorrelated variables, called principal components. The first principal component accounts for as much of the variability in the data as possible, and each succeeding component accounts for as much of the remaining variability as possible. Thus, using PCA one can reduce the whole set of indicators to a few *factors* (underlying dimensions), and one can also construct a *dimension* index using factor loading values as the weight of the particular variable.

The following procedure was adopted in converting raw data into the normalised form. First, the best and worst values in an indicator were identified. The best and worst values depend on the nature of a particular indicator. In the case of a positive indicator, the highest value was treated as the best value and the lowest was considered as the worst value. Similarly, if the indicator is negative in nature, then the lowest value was considered as the best value and the highest was considered as the worst value. Once the best and worst values were identified, the following formula was used to obtain normalised values:

$$\boldsymbol{NV_{ij}} = \left[1 - \left\{\frac{\left(\boldsymbol{Best_i} - \boldsymbol{Observed_{ij}}\right)}{\left(\boldsymbol{Best_i} - \boldsymbol{Worst_i}\right)}\right\}\right] \times 100$$

Where, NV_{ij} is the normalised value for the ith indicator of the jth country. $Best_i$ is the best value of the ith indicator, $Worst_i$ is the worst value of the ith indicator and $Observed_{ij}$ is the observed value of the jth country for the ith indicator. NV_{ij} always lies between 0 and 100.

The first task under PCA is to extract the principal components (factors). This depends upon the Eigen value of the factors. The Eigen value of a principal component explains the amount of variation extracted by the principal component, and hence gives an indication of the importance or significance of the principal component. According to Kaiser's criterion, only the principal components having Eigen values greater than 1 should be considered as essential and should be retained in the analysis. Weight for each variable was calculated from the product of factor loadings of the principal components with their corresponding Eigen values. In the first step, all factor loadings were considered in absolute terms. Then the principal components that were higher than 1 were considered and their factor loadings were multiplied with the corresponding Eigen values for each variable. In the next step, the weight for each variable was calculated as the share of the aforementioned product for each variable in the sum of the product. The index was then calculated using the following formula:

$$SII = \frac{\sum_{i=1}^{n} X_i \left(\sum_{k=1}^{m} L_{ik} E_k\right)}{\sum_{i=1}^{n} \left(\sum_{k=1}^{m} L_{ik} E_k\right)}$$

Where *SII* is the synthetic institutional index, X_i is the ith indicator; L_{ik} is the factor loading value of the ith variable on the kth factor; E_k is the Eigen value of the kth factor.

A.2 Data

Institutional quality is reflected based on the indicators developed by the Worldwide Governance Indicators, Transparency International, World Bank Doing Business, the World Economic Forum's Competitiveness Index, Polity IV, Freedom House, Bertelsmann Foundation, Heritage Foundation, the Logistics Performance Index, the Global Competitiveness Index, and ICRG etc. These indicators are mostly incorporated in the Quality of Government dataset developed by the University of Gothenburg. The Quality of Government standard cross-sectional dataset consists of approximately 2,100 variables from more than 100 data sources. These variables are mostly related to institutions either directly or indirectly.. The target year of the dataset is 2015, but when data are not available, information from the following year or preceding year is included.

The Quality of Government dataset clearly reflects the quality of institutions, but in the analysis of the quality of Bangladesh's institutions the variables need to be chosen selectively. First, many variables are related to the outcomes of institutions, and not to the characteristics of institutions. This is true for variables like life expectancy or literacy rates. Institutions may affect these outcomes, and many factors can act as determinants of institutions too, such as the quality of the education system, extrajudicial killings, or corruption in the media. Second, there is a lack of data on institutions for many developing countries. Around 500 variables were dropped because they have information only on the members of the European Union, the OECD, or the African countries. A selection of relevant variables according to these two criteria leaves us with 105 variables from 11 sources, covering 105 countries. This is a small share of the original dataset but still represents a lot of information on institutional quality.

It was found that groups of indicators from different sources are highly correlated. Sometimes this is by construction, because one variable relies on other variables in the dataset. The Worldwide Governance Indicators are the clearest example of this type. They are constructed as an unobserved component of a set of individual indicators. Other indicators are related because respondents answer different questions from a specific viewpoint. This is typically the case for the variables behind the Global Competitiveness Report published by the World Economic Forum, where answers are 'global business' oriented. Thus, variables may be related interdependently.

To derive the indices for selected themes, the following procedure was applied. At first the indicators were selected from several sources, namely: Quality of Government, Worldwide Governance Indicators, Logistics Performance Index, Global Competitiveness Index, and ICRG. The indicators were then normalised according to the best and worst performances determined by the respective sources. All the indicators could thus take a maximum value of 100, where higher values of the indicators represent better performance. These indicators were then disaggregated according to the six themes reflecting institutional quality. The

themes thus contain the most relevant indicators reflecting institutional quality in respective sectors. An index was created from the indicators for each theme following the procedure of using PCA. The main objective of this analysis was to reflect the variation of the first component. To do this, components with Eigen values greater than 1 were taken into consideration. These components were then rotated to calculate the respective weights. Finally, the variables were multiplied by respective weights. This procedure was followed for each of the variables, which generated a unique index for each of the themes.

A.3 Variables and calculated weights

Table 5: List of variables and calculated weights of the variables in the 'democracy' index

#	Variable	Data source	Weight (%)
1	Political stability	World Governance Indicators	3.9801
2	Government effectiveness	World Governance Indicators	4.2313
3	Institutions	Global Competitiveness Index	2.4732
4	Public trust in politicians	Global Competitiveness Index	4.2496
5	Transparency of government policymaking	Global Competitiveness Index	2.8932
6	Willingness to delegate authority	Global Competitiveness Index	2.5437
7	Government stability	Political Risk System	4.4825
8	Military in politics	Political Risk System	3.9950
9	Democratic accountability	Political Risk System	5.1853
10	Government militarisation index	Quality of Government	2.0239
11	External intervention	Quality of Government	3.8657
12	Factionalised elites	Quality of Government	4.6937
13	Fragile states index	Quality of Government	4.8036
14	State legitimacy	Quality of Government	5.0617
15	Electoral process	Quality of Government	5.6478
16	Autonomy	Quality of Government	5.7470
17	Political pluralism	Quality of Government	6.5474
18	Political rights	Quality of Government	6.2801
19	Political pressure	Quality of Government	5.1743
20	Press freedom (Amnesty International)	Quality of Government	5.3597
21	Press freedom	Quality of Government	4.9109
22	Competition	Quality of Government	5.8506
Total			**100**

Source: Authors' own calculation, based on the PCA

Table 6: List of variables and calculated weights of the variables in the 'rule of law' index

#	Variable	Data source	Weight (%)
1	Regulatory quality	World Governance Indicators	5.8025
2	Rule of law	World Governance Indicators	6.2399
3	Control of corruption	World Governance Indicators	6.5910
4	Effectiveness of anti-monopoly policy	Global Competitiveness Index	9.5094
5	Efficiency of legal framework in challenging regulations	Global Competitiveness Index	10.1897
6	Efficiency of legal framework in settling disputes	Global Competitiveness Index	11.2969
7	Judicial independence	Global Competitiveness Index	8.7044
8	Regulation of securities exchanges	Global Competitiveness Index	9.7648
9	Strength of auditing and reporting standards	Global Competitiveness Index	8.2480
10	Law and order	Political Risk System	5.3058
11	Rule of law	Quality of Government	3.4324
12	Rule of law (Freedom House)	Quality of Government	3.4030
13	Laws and regulations	Quality of Government	4.8255
14	Corruption perception index	Quality of Government	6.6867
Total			**100**

Source: Authors' own calculation, based on the PCA

Table 7: List of variables and calculated weights of the variables in the 'business environment' index

#	Variable	Data source	Weight (%)
1	Customs	Logistics Performance Index	5.4930
2	Infrastructure	Logistics Performance Index	6.2193
3	International shipment	Logistics Performance Index	6.0638
4	Logistics quality	Logistics Performance Index	6.4433
5	Tracking	Logistics Performance Index	6.6594
6	Availability of financial service	Global Competitiveness Index	3.2998
7	Availability of latest technology	Global Competitiveness Index	4.1395
8	Capacity for innovation	Global Competitiveness Index	4.0504
9	Company spending on R&D	Global Competitiveness Index	4.4767
10	Degree of customer orientation	Global Competitiveness Index	4.1773
11	Domestic market size index	Global Competitiveness Index	7.4363
12	Effect of taxation on invest	Global Competitiveness Index	3.3353
13	Efficacy of corporate boards	Global Competitiveness Index	2.0882
14	Extent of market dominance	Global Competitiveness Index	4.5359
15	Financial market development	Global Competitiveness Index	2.5603
16	Intensity of local competition	Global Competitiveness Index	3.9871
17	Labour market efficiency	Global Competitiveness Index	1.1808
18	Local supplier quality	Global Competitiveness Index	4.9558
19	Local supplier quantity	Global Competitiveness Index	5.4164
20	Prevalence of foreign ownership	Global Competitiveness Index	1.5311
21	Production process sophistication	Global Competitiveness Index	5.0598
22	University–industry collaboration in R&D	Global Competitiveness Index	4.4020
23	Venture capital availability	Global Competitiveness Index	2.4886
Total			**100**

Source: Authors' own calculation, based on the PCA

Table 8: List of variables and calculated weights of the variables in the 'bureaucracy' index

#	Variable	Data source	Weight (%)
1	Bureaucracy quality	Political Risk System	9.6450
2	Public services	Quality of Government	10.2138
3	Government integrity	Quality of Government	11.7728
4	Diversion of public funds	Global Competitiveness Index	11.9568
5	Wastefulness of government spending	Global Competitiveness Index	9.6283
6	Customs procedures	Global Competitiveness Index	11.6624
7	Reliability of police services	Global Competitiveness Index	11.8029
8	Favouritism in decisions of govt officials	Global Competitiveness Index	11.1940
9	Irregular payments and bribes	Global Competitiveness Index	12.1241
Total			**100**

Source: Authors' own calculation, based on the PCA

Table 9: List of variables and calculated weights of the 'land' index

#	Variable	Data source	Weight (%)
1	Infrastructure	Global Competitiveness Index	15.2640
2	Property rights	Global Competitiveness Index	13.5186
3	Registering property	Doing Business	13.4466
4	Internal conflict	Political Risk System	11.1033
5	External conflict	Political Risk System	9.8336
6	Ethnic tension	Political Risk System	12.9977
7	Arable land	Quality of Government	8.2683
8	Forest area	Quality of Government	15.5679
Total			**100**

Source: Authors' own calculation, based on the PCA

Table 10: List of variables and calculated weights of the variables in the 'human rights' index

#	Variables	Data source	Weight (%)
1	Voice and accountability	World Governance Indicators	6.0611
2	Health and primary education	Global Competitiveness Index	9.7302
3	Higher education and training	Global Competitiveness Index	10.8705
4	Affordability of financial service	Global Competitiveness Index	11.9485
5	Cooperation in labour–employer relations	Global Competitiveness Index	12.4876
6	Ethical behaviour of firms	Global Competitiveness Index	12.8475
7	Intellectual property protection	Global Competitiveness Index	11.7553
8	Protection of minority investors' rights	Doing Business	6.4988
9	Religious tension	Political Risk System	5.4682
10	Civil liberties	Quality of Government	5.4322
11	Freedom of expression	Quality of Government	6.9003
Total			**100**

Source: Authors' own calculation, based on the PCA

Annex B Aggregated country score and ranking in the synthetic index

Table 11: Aggregated country score and ranking in the synthetic index for 105 countries in 2016

	Democracy		Rule of law		Business environment		Bureaucracy		Land		Human rights	
Country	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
Albania	56.8618	57	38.7609	85	38.9583	95	42.7034	55	52.7980	65	58.6719	45
Algeria	37.6398	90	35.8174	94	40.6672	90	39.5023	70	40.0982	100	42.0880	97
Argentina	62.4595	44	36.4818	92	45.0375	80	30.4045	94	50.3808	79	53.5800	69
Armenia	43.3922	80	40.8661	80	40.0069	93	41.0210	61	54.2111	60	52.4750	77
Australia	82.5463	11	76.8116	14	66.3336	21	74.5468	17	62.3224	32	77.0684	14
Austria	80.7204	16	73.5661	18	70.9663	10	70.4215	20	69.3447	7	77.8581	11
Bahrain	43.1225	82	56.4965	39	57.1158	36	63.0185	26	54.3011	58	57.0429	51
Bangladesh	**39.4302**	**87**	**32.6987**	**101**	**43.7231**	**85**	**27.9411**	**97**	**39.0888**	**102**	**42.4300**	**96**
Belgium	81.8513	13	73.7865	17	72.1778	9	72.3646	19	58.4305	39	76.6139	15
Bolivia	50.2077	67	37.6642	88	37.7476	97	37.0550	78	48.2942	85	50.7453	80
Botswana	61.0739	48	59.3518	32	45.2437	78	51.2606	40	55.2429	56	57.8547	47
Brazil	59.8192	51	44.4426	66	53.2223	46	32.3950	89	54.2667	59	56.9202	53
Bulgaria	63.8939	42	45.0143	64	46.5507	70	39.9068	68	57.4594	47	57.3122	49
Cameroon	30.8168	102	35.2344	96	40.1191	92	32.5942	87	45.6680	91	44.2305	92
Canada	84.4096	9	80.6437	8	70.5883	12	75.1828	15	66.1526	17	79.7938	8
Chile	73.1166	29	66.3687	23	55.2190	42	65.4297	23	57.6125	44	67.7777	26
China	29.1836	104	44.4046	68	62.6632	26	48.6376	42	52.0582	69	49.5328	85
Colombia	50.8974	66	43.2796	70	48.5639	62	36.3288	80	57.9309	43	54.5313	64
Costa Rica	73.6392	27	59.8531	31	49.0137	59	48.1595	43	65.2379	20	66.3454	30
Cote d'Ivoire	43.3633	81	47.0736	55	46.0409	72	36.4989	79	46.4903	89	47.5734	88
Croatia	67.3307	35	46.6118	61	48.6231	61	49.5476	41	57.4973	46	57.2826	50
Cyprus	67.6753	34	60.9156	28	49.4823	57	59.6989	29	51.5214	73	65.1929	31
Czech Republic	74.0905	26	60.6841	29	63.0087	24	53.8432	37	63.4815	26	68.9191	23
Denmark	85.4400	5	79.0909	10	67.4293	19	79.5556	10	65.1589	21	80.4897	6
Dominican Republic	55.2377	59	42.0653	78	45.5446	76	29.7090	96	57.9666	42	52.9730	75
Ecuador	45.6462	76	36.7769	90	45.4468	77	39.8097	69	54.4263	57	55.4147	62

	Democracy		Rule of law		Business environment		Bureaucracy		Land		Human rights	
Country	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
Egypt	28.5779	105	40.1523	83	46.9128	69	42.6704	56	43.4521	96	41.8660	98
El Salvador	57.8432	54	42.3235	77	45.6775	74	38.3531	74	58.0723	40	52.8921	76
Estonia	76.9748	18	69.9807	22	57.6656	32	66.5761	22	65.6432	19	72.7481	20
Finland	87.8229	2	87.3624	1	69.6737	14	86.5527	1	78.5035	1	83.7428	1
France	75.2620	22	70.4103	21	68.5277	17	65.1907	24	60.6639	35	70.2292	21
Gabon	35.3654	93	38.2297	87	35.7189	100	37.4021	76	56.5232	51	44.9623	90
Germany	81.7922	14	77.3773	11	76.5441	2	73.5366	18	66.7502	14	76.2822	16
Ghana	62.7920	43	49.8536	48	45.1386	79	41.6698	60	51.9428	70	55.9007	59
Greece	64.3161	41	46.6557	59	49.2703	58	46.4329	49	57.3916	48	59.3954	43
Guatemala	48.3182	69	40.8702	79	49.5297	55	31.6560	91	51.5100	74	55.5954	61
Guinea	34.0527	94	26.3823	104	33.0818	104	25.7255	100	35.8717	103	33.8800	105
Guyana	59.9111	50	42.6422	73	43.7128	86	37.2257	77	51.7810	71	54.4066	65
Haiti	31.3809	98	27.7541	103	26.5767	105	20.5425	104	40.1613	99	40.2853	100
Honduras	45.2451	79	42.7147	72	46.3525	71	35.8116	81	57.5943	45	54.1815	67
Hungary	64.3623	40	48.7858	52	52.6732	47	47.9956	44	59.1922	37	57.0169	52
Iceland	82.1310	12	74.7593	15	55.5574	41	75.3516	14	63.3502	27	76.0808	18
India	61.4483	47	51.4638	45	57.4123	34	47.6641	45	46.3731	90	56.0591	58
Indonesia	57.3753	56	46.7518	58	56.0402	38	44.8544	52	51.5029	75	56.3077	55
Iran	31.1045	101	36.1322	93	43.0924	87	40.6851	64	47.8561	86	39.5619	101
Ireland	83.0675	10	74.6825	16	67.0188	20	78.2660	11	66.2449	16	77.2135	13
Italy	69.6480	33	46.6187	60	61.2310	27	45.6540	51	63.7169	25	61.5350	39
Jamaica	65.0551	37	51.5846	44	43.8306	84	40.7461	63	57.3669	49	59.7472	42
Japan	76.4558	19	77.0801	13	76.3483	3	76.8101	13	75.4189	2	78.6912	10
Jordan	41.0496	85	54.1604	41	52.0534	49	54.7057	36	47.0722	88	56.1010	57
Kazakhstan	36.9635	91	42.9670	71	48.1607	63	45.6846	50	53.2433	63	50.7792	79
Kenya	46.3124	74	44.8138	65	55.6739	40	35.3122	84	42.4522	98	50.0548	84
Korea, Rep.	60.2959	49	57.2699	38	62.9296	25	47.3800	46	69.2222	8	60.8323	40
Kuwait	41.7948	84	49.2900	50	49.6260	54	46.6990	47	49.5749	81	50.4222	81
Latvia	70.2333	32	57.3760	37	54.4839	45	52.2139	38	61.9126	34	66.7067	28
Lebanon	37.8815	89	38.6431	86	47.6167	66	30.0757	95	44.1468	95	50.3961	82

	Democracy		Rule of law		Business environment		Bureaucracy		Land		Human rights	
Country	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
Liberia	48.2574	70	42.3242	76	36.3448	99	35.6800	82	44.4277	94	43.7671	94
Lithuania	74.6205	25	57.5824	36	59.2977	29	52.0324	39	64.1859	24	67.9884	25
Luxembourg	85.1291	8	83.3839	4	69.8603	13	79.9553	6	69.5177	6	80.1188	7
Madagascar	47.0463	72	32.8756	100	37.4840	98	26.4365	99	39.7258	101	44.3093	91
Malaysia	52.2629	62	60.6424	30	67.8391	18	63.6115	25	67.5592	12	66.4272	29
Malta	74.8445	24	65.1233	25	51.6171	50	58.5930	31	58.0454	41	69.5806	22
Mexico	51.1933	65	42.3388	75	54.4955	44	35.3726	83	51.6327	72	55.8964	60
Moldova	51.6465	64	34.5415	97	38.8245	96	32.3340	90	49.4824	82	53.0122	74
Mongolia	64.6407	39	42.5492	74	39.3529	94	38.1583	75	52.1267	68	57.3267	48
Myanmar	31.3446	99	27.7733	102	35.4770	101	25.2436	102	43.3263	97	38.2049	104
Netherlands	85.2055	7	83.0802	5	73.6035	6	79.7258	8	68.6420	9	79.6674	9
New Zealand	85.8635	4	85.6008	2	63.4980	22	86.1965	3	68.0081	11	83.0755	3
Nigeria	40.4951	86	39.0207	84	45.9457	73	22.0672	103	34.2093	104	39.1924	102
Norway	88.3328	1	84.5911	3	68.5355	16	81.9997	4	66.5831	15	83.0891	2
Oman	41.9468	83	53.7551	43	51.2008	52	58.8294	30	56.8891	50	53.4809	70
Pakistan	38.9924	88	37.5784	89	47.6420	65	32.5382	88	34.0621	105	38.7087	103
Panama	67.0538	36	48.1339	54	55.9892	39	42.4341	57	65.9393	18	63.1663	36
Paraguay	47.8577	71	36.5813	91	42.0803	88	25.5614	101	52.8682	64	48.9817	86
Peru	57.6195	55	45.3173	63	49.5289	56	35.0729	86	54.1864	61	56.5229	54
Philippines	51.9822	63	46.2548	62	52.2250	48	40.7576	62	51.3836	76	58.9157	44
Poland	73.5157	28	58.3159	34	57.3722	35	54.8667	35	65.1390	22	65.0912	32
Portugal	78.0653	17	59.1850	33	57.7705	31	60.2014	28	66.7576	13	68.0962	24
Qatar	45.4698	77	70.7061	20	69.2587	15	77.6640	12	62.9054	30	67.0296	27
Romania	64.7297	38	50.3093	47	48.8148	60	39.9912	67	55.9456	53	58.2250	46
Russia	33.8836	95	35.7693	95	47.1057	68	35.3038	85	53.9582	62	48.9287	87
Saudi Arabia	31.4276	97	56.1380	40	57.8383	30	61.3285	27	56.1344	52	54.3586	66
Senegal	55.2720	58	48.5507	53	44.0390	83	41.7789	59	48.6361	84	52.1683	78
Serbia	58.0707	53	40.8207	81	40.5665	91	39.3300	72	50.6075	78	53.2060	72
Singapore	62.2221	46	77.2600	12	73.5918	7	86.3215	2	70.8889	5	76.2210	17
Slovakia	72.8919	30	49.2767	51	54.7922	43	43.4724	54	62.1992	33	62.0319	38

	Democracy		Rule of law		Business environment		Bureaucracy		Land		Human rights	
Country	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
Slovenia	75.1015	23	53.8398	42	51.4685	51	56.3873	33	63.0806	28	63.8219	33
South Africa	62.4077	45	65.5067	24	63.2530	23	40.0037	66	52.7902	66	60.1532	41
Spain	71.7537	31	58.2698	35	61.2289	28	55.2986	34	62.9118	29	63.3935	35
Sri Lanka	45.6890	75	50.4727	46	50.9366	53	42.2738	58	52.6499	67	56.1837	56
Sweden	85.2393	6	82.4161	6	72.8641	8	79.6319	9	74.9855	3	80.7237	5
Switzerland	87.3695	3	81.6122	7	76.2814	4	80.8235	5	70.9863	4	82.3089	4
Tanzania	53.1925	60	44.4369	67	44.7609	81	31.4880	92	49.3424	83	42.9656	95
Thailand	35.5469	92	46.7927	57	56.5169	37	39.4077	71	55.4873	55	50.3012	83
Tunisia	58.9666	52	46.8291	56	41.7662	89	43.8411	53	50.7855	77	53.5805	68
Turkey	46.3863	73	43.7754	69	57.4793	33	46.5309	48	47.5414	87	53.0228	73
Ukraine	49.7075	68	34.2606	99	45.6132	75	31.0788	93	50.0571	80	54.7414	63
United Arab Emirates	45.4421	78	64.9590	26	70.9217	11	79.9336	7	62.6930	31	62.8422	37
United Kingdom	80.9401	15	79.1486	9	74.7919	5	74.7334	16	64.3484	23	77.5951	12
United States	76.0283	20	72.9428	19	77.5647	1	67.2774	21	68.3643	10	75.4887	19
Uruguay	75.4054	21	63.0368	27	47.2294	67	58.5167	32	58.5497	38	63.7327	34
Venezuela	33.3850	96	16.5558	105	35.2392	102	15.1991	105	45.4379	92	40.5657	99
Vietnam	29.9947	103	40.3052	82	48.1000	64	40.3972	65	60.5332	36	45.8326	89
Zambia	52.5779	61	49.4196	49	44.3587	82	38.8656	73	55.7550	54	53.4401	71
Zimbabwe	31.1707	100	34.3068	98	34.0886	103	27.1243	98	45.2970	93	43.9690	93

Source: Authors' own calculation, based on the PCA