

# Measure Types of Institutions in Georgia and Transition Economies

T. Zhghenti

**Abstract**—The institutional structure and framework is important for every economy, especially for developing countries. The most popular distinction is formal and informal institutions. Also, an interesting question is who sanctions rule-breaking? Government or society? So, internal vs external institutions is present as a second dimension in the institutional structure.

Considering both dimension of institutional structure (formal vs informal, internal vs external) we get four types of institutions. First goal of research is to measure a size for each institutional type in the Georgian economy. We can use different indicators, but most suitable for our research are Global Competitiveness indexes. Also, dynamics of institutional development is important to reach research aims.

Second point of interest is interactions between institutions, which can be as complementary as conflicting. We can use statistical methods to evaluate interactions between different types of institutions. Different researches can be useful to determine which specific institutions leads the process of relationships formation between different types of institutions.

**Index Terms**—Formal institutions, informal institutions, internal institutions, external institutions, Georgian institutional development.

## I. INTRODUCTION

Institutions have a major role in our daily life. Economic processes are influenced as economic as non-economic institutions. They are different by their importance, structure and nature. So, economic analyze of institutions requires their arrangement into different groups characterized by specific features.

Notable that institutional space is always transforming. Some of institutions are replaced by new institutions, some of them are changing their structure and keep living. Construction and destruction – economic and non-economic – do not occur vacuum, but are the result of people's perception stemming from historically derived opportunities and values [1]. Changes in the institutional structure have its costs. Volume of costs is one of the important factor to promote transforming processes. The institutional framework will affect both transformation and transaction costs, first by influencing the technology employed and second because there are direct connections between institutions and transaction costs [2].

Most popular distinction between different institutions is given from Nobel Prize laureate American economist Douglas Cecil North - formal vs informal institutions. What

are characteristics of formal or informal norms? Informal institutions defined by codes of conduct, norms of behavior and conventions. They come from socially transmitted information and are a part of heritage that we call a culture. Unlike informal one, formal institutions are written; they include political (and judicial) rules, from constitutions, to statute and common laws, to specific bylaws, and finally to individual contracts defines constraints, from general rules to particular specifications [2].

Other institutional distinction can be defined by not it is written or not, but about who is responsible for sanctioning when a rule has been reneged upon. According to German economist Stefan Voigt, if the state sanctions rule-breaking, the enforcement is external to society, if rule-breaking is sanctioned by members of society, institution is internal [3]. Within the internal institutions category, more wide taxonomy focus on who does the sanctioning, unorganized actors or organizations [4].

So, we have two dimension of institutional structure:

- Formal vs. Informal;
- Internal vs. External.

If we combine them, we can get four types of institutions each with two institutional dimension. These types should be: Formal internal (FI), Formal external (FE), Informal internal (II) and Informal external (IE)<sup>1</sup>. Sum of these institutions should give us total institutional space. With theoretical foundations of both distinction each type institutions should be shortly described as:

- Formal external institutions – laws and official regulations which is controlled by state.
- Formal internal institutions- formal rules created by society and business.
- Informal external institutions – quality of government policies, public trust in politics.
- Informal Internal institutions – unwritten norms in the society, such as ethics.

## II. INSTITUTIONAL INDICATORS

After we theoretically grouped institutions, next important question is how we can measure these four type of institutions? To measure institutions is one of the main problem in the institutional economics, because most of variables are not quantitate. But, there are several institutional indicators about different qualitative aspects. Most suitable for this 4-type distinction should be “Global Competiveness Indexes” which is provided by World Economic Forum on its “Global Competiveness Report”.

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<sup>1</sup> Proposal of two dimensional matrix belongs to Stefan Voigt. Abbreviations of institutional types is introduced by author.

Global Competitiveness Index includes 12 pillar about competitiveness landscape of countries. It includes data about 140 economies and providing insight into the drivers of their productivity and prosperity [5].

From the 12 pillar for our research is interesting only 1st pillar of index which is “Institutions”. Pillar “Institutions” includes 7 sub-indexes and 21 indicators. Source of institutional indicators is executive opinion survey of World Economic Forum.

Data from this pillar help us in our research. Pillar “Institutions” is grouped by A - Public Institutions and B - Private Institutions. Split by private and public institutions can dedicate distinction according to one dimension (external vs internal). Public institutions we can present as external type and private institutions as internal type.

Second dimension (formal vs. informal) should be determine by specified characteristics of sub-indexes. To determine formal and informal institutions is used only sub-indexes, because coefficients in the one sub-index belongs to the same type of institutions. Scores for each type should be calculate as simple average of sub-indexes, because they have equal weights in the total GCI index calculation.

Let’s, group the GCI sub-indexes into the two dimensional matrix (Table I). Every type includes at least one sub-index. Coefficients in every group is listed above the table.

TABLE I: DISTRIBUTION OF SUB-INDEXES BY INSTITUTIONAL TYPES

	Formal	Informal
External	<ul style="list-style-type: none"> <li>Property rights</li> <li>Public sector performance</li> </ul>	<ul style="list-style-type: none"> <li>Ethics and corruption</li> <li>Undue influence</li> <li>Security</li> </ul>
	Internal	<ul style="list-style-type: none"> <li>Accountability</li> <li>Corporate ethics</li> </ul>

Formal external institutions – Property Rights (incl. coefficients: property rights, intellectual property protection, Public Sector Performance (Wastefulness of government spending, Burden of government regulation, Efficiency of legal framework in settling disputes, Efficiency of legal framework in challenging regulations, Transparency of government policymaking).

Informal external institutions – Ethics and Corruption (Diversion of public funds, Public trust in politicians, Irregular payments and bribes), Undue Influence (Judicial independence, Favoritism in decisions of government officials, Security (Business costs of terrorism, Business costs of crime and violence, Organized crime, Reliability of police services).

Formal internal institutions – Accountability (Strength of auditing and reporting standards, Efficacy of corporate boards, Protection of minority shareholders’ interests , Strength of investor protection).

Informal internal institutions – Corporate Ethics (Ethical behavior of firms).

### III. MEASURE TYPES OF INSTITUTIONS

Next step is to calculate score for each institutional type

with sub-indexes given above. Let’s measure institutions types’ level for Georgian case.

On the “2016-2017 Global Competitiveness Report” score for Georgia is 4.2 (1-7) and ranks 66th place in 140 economies. For 1th pillar institutions score is 4.4 (A. public institution -4.4, B. private institutions - 4.3). For comparison on the “2007-2008 Global Competitiveness Report” score of 1<sup>st</sup> pillar was only 3.6.

By the method given above, we can calculate scores of institutional types. Also, for clarification we proportionally modify scores to 0-1 range instead of 1-7. Rescaled scores of institutional types is listed below (in the brackets are component sub-indexes of each group as original scores):

- Formal external institutions – 0.54 (property rights 4.38, public sector performance - 4.05);
- Informal external institutions- 0.59 (ethics and corruption – 4.25, undue influence -3.76, security – 5.57);
- Formal internal institutions – 0.59 (accountability -4.55);
- Informal internal institutions - 0.48 (corporate ethics-3.88).

Modified scores by type of institutions is also given on the Fig. 1. In Georgia, most powerful are formal internal and informal external institutions. Most weak are informal internal institutions.

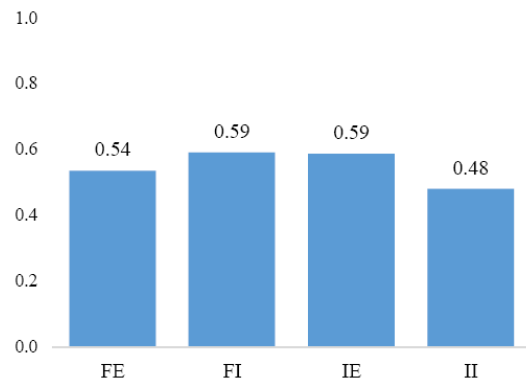


Fig. 1. Institutional types in Georgian economy (0-1).

Formal internal institutions is determined sub-index accountability, which include four coefficients: strength of auditing and reporting standards - 4.6 from 7.0, efficacy of corporate boards – 4.6 from 7.0, protection of minority shareholders’ interests – 3.8 from 7.0 and strength of investor protection - 6.1 from 10.0. From the formal external institutions group, one of the highest coefficient is burden of government regulation – 4.7 from 7.0, which is a part of public sector performance sub-index. Important role for functioning Informal external institutions are security, which makes confidence for foreign investors. Most high coefficients here are business cost of terrorism (6.2 from 7.0) and organized crime (6.2 from 7.0). Besides, that Georgia is located in the region full with tension and military actions (also country have two occupied regions: Abkhazia and south Ossetia) it is 14th country in the world with low costs of terrorism. We can said that high quality of informal external institutions is mostly caused by stable country policy and development course, and not from public opinion about the policy makers. Public trust in politicians has a lowest score with all the institutional indicators of GCI index, 2.8 from

7.0.

Interesting is dynamics of institutional scores. World Economic Forum provides GCI indexes only for 2007-2016 years. Dynamics of Georgian data by is shown on Fig. 2:

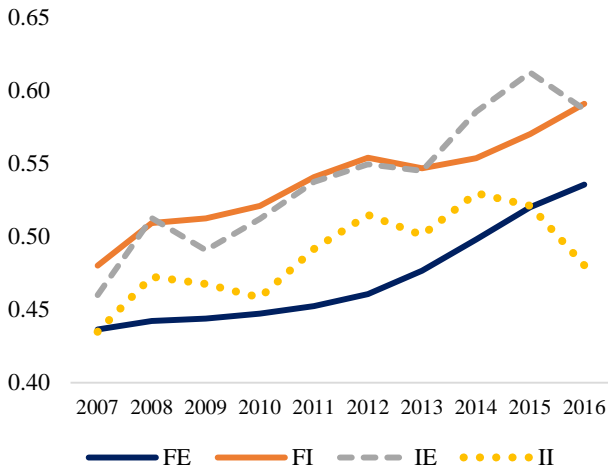


Fig. 2. Institutional Types in Georgian Economy, 2007-2016 years (0-1).

From the Fig. 2 we can see that trajectory of formal institutions development are mostly same (FE and FI). It's also from fair from informal ones (IE and II). Scores of indexes are growing over years, but there is a decrease on the last year (2016) of informal external and informal internal institutions. In general it can be said that Georgian institutional development continues upward trend.

IV. INTERACTIONS BETWEEN INSTITUTIONS

Second aim of the research is to measure interactions between different types of institutions. We make correlation analyze with scores of four institutional type for Georgia about 2007-2016 years. Analyze showed high correlations between scores of institutional types (see Table II).

As total institutions pillar index is increasing year by year, all correlation coefficients are positive. We can analyze high and low scores between them. Most high correlation coefficients is between formal external and informal external institutions (0.93). Its means that formal improvement in property rights and government efficiency causes same effect in informal side of state (for example: decrease corruption, which was one of the most important success of 2000s economic policy in Georgia). The lowest coefficient is between formal internal and informal internal institutions. Changes in formal state laws can't be immediately to informal side of society, informal institutions, especially internal informal institutions have time lags to change. Georgia was soviet country for 70 years and some of alive informal mechanisms were formed in the different social-economic reality. Informal norms of the planned economy is not suitable for the market economy, but their transformation is long-run process. Incompatibility causes barriers for effectiveness functioning of the formal norms. In this two-dimension model informal internal institutions are determined by the coefficient "ethical behavior of firms". Source of the coefficient is a question in the executive opinion survey of world economic forum – "In your country, how do you rate the corporate ethics of companies (ethical behaviors in interactions with public officials, politicians,

and other firms)? Indicator has not important progress over time, because corporate ethics is formed by society where is not yet fully defined rules of positioning of the companies in the market economy.

TABLE II: CORRELATION BETWEEN TIME DATA OF GEORGIA

	FE	FI	IE	II
FE	1,00	0,89	0,90	0,58
FI	0,89	1,00	0,93	0,73
IE	0,90	0,93	1,00	0,84
II	0,58	0,73	0,84	1,00

We also took a correlation analyze between transition economies for the 2016-2017 years (Table 3). List of transition economies is given from World Bank (2002). These transition/post-transition economies are : Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, Cambodia, china, Croatia, Czech Republic, Georgia, Hungary, Kazakhstan, Kyrgyz Republic, Lao PDR, Latvia, Lithuania, Macedonia, Moldova, Montenegro, Poland, Romania, Russian federation, Serbia, Slovak republic, Slovenia, Tajikistan, Ukraine, Vietnam<sup>2</sup> [6]. Some of these countries have already completed transition to market economy (especially countries of central and eastern Europe), but their institutional transformation is still active and interesting process, so they all are include in equation. Despite the Georgian example this correlation coefficients should give us static analyze of the current situation (from 2016-2017 data).

Table III shows correlation coefficients between institutional scores calculated by method given from the previous chapter. Most high coefficient is between informal external and formal external institutions (0.90), this had same score for Georgian example of time data. In countries with strong and stable laws, state functions are also efficiently. Interactions between informal external/informal internal institutions to formal internal institutions have lower scores, 0.59 and 0.55. It means that dependence between informal sectors and private arbitration is more uncertainly and different among countries.

TABLE III: CORRELATION BETWEEN COUNTRY DATA FOR 2016 YEAR

	FE	FI	IE	II
FE	1,00	0,62	0,93	0,84
FI	0,62	1,00	0,59	0,55
IE	0,93	0,59	1,00	0,79
II	0,84	0,55	0,79	1,00

V. CONCLUSION

Institutional analyze shows that formal internal and informal external institutions most powerful in Georgia and

<sup>2</sup> Uzbekistan and Turkmenistan are included in World Bank transition economies list, but GCI report does not cover them.

informal internal institutions most weak. Formal external institutions such most legislation have positive effect on the development of state efficiency as in Georgia, also in other transition countries, where formal public norms corresponds informal public institutional environment.

Also, dynamics of formal internal institutions development is same of informal external institutions in Georgia. So, efficient policy of government and stable business environment causes formation of corporate ethics. But it is long-run process and has not instant sharp impact. In the overall, quality of the institutional space are progressing with close connections and synergy effect of different institutions.

APPENDIX

TABLE IV: GCI INSTITUTIONAL SUB-INDEXES FOR GEORGIA, ORIGINAL DATA (1-7)

	Property rights	Public sector performance	Ethics and corruption	Undue influence
2007	3,1	3,5	3,3	2,8
2008	3,4	3,8	3,7	3,1
2009	3,2	3,8	3,4	2,9
2010	3,1	3,9	3,9	3,0
2011	3,1	3,9	4,2	3,2
2012	2,9	3,8	4,4	3,3
2013	3,2	3,8	4,3	3,3
2014	3,6	3,9	4,3	3,6
2015	4,0	4,1	4,3	3,8
2016	4,4	4,0	4,2	3,8

	Security	Accountability	Corporate ethics
2007	5,2	3,9	3,6
2008	5,5	4,1	3,8
2009	5,5	4,1	3,8
2010	5,4	4,1	3,8
2011	5,3	4,2	3,9
2012	5,2	4,3	4,1
2013	5,2	4,3	4,0
2014	5,6	4,3	4,2
2015	5,9	4,4	4,1
2016	5,6	4,5	3,9

TABLE V: INSTITUTIONAL TYPES SCORES FOR GEORGIA, RESCALED & CALCULATED DATA (0-1)

	FE	FI	IE	II
2007	0,44	0,48	0,34	0,43
2008	0,44	0,51	0,40	0,47
2009	0,44	0,51	0,36	0,47
2010	0,45	0,52	0,40	0,46
2011	0,45	0,54	0,45	0,49
2012	0,46	0,55	0,47	0,51
2013	0,48	0,55	0,47	0,50
2014	0,50	0,55	0,50	0,53
2015	0,52	0,57	0,51	0,52
2016	0,54	0,59	0,50	0,48

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