

Formal Concept Analysis and the Problem of Democracy Evaluation : possible tool for knowledge discovery and " comparing the comparators"

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Abstract

This paper seeks to respond to the challenge of assessing, choosing and application of multiple Democracy Indices and suggests several possible research techniques of knowledge discovery out of numerical data and aggregated indicators, produced by different Democracy Ranking Agencies, that seem incompatible. We address this issue from the point of knowledge discovery and present the opportunities of Formal Concept Analysis as an additional tool for this goal, allowing to compare Democracy Ranking Agencies themselves according to their research design models and key parameters they use for democracy evaluation. We hope this to be helpful to both public policy researchers and practitioners, particularly in their interaction through knowledge application to what is known as "policy work", and by applying "reality check" on theoretical models. We also claim that producers and promoters of various democracy rankings, by the very fact of providing applicable knowledge to global policy-makers are becoming noticeable actors in the process of global governance.

Key words: formal concept analysis, democracy evaluations, knowledge discovery, policy work, global governance.

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Introduction

In globalizing world countries compete on different parameters - from population dynamics, quality of life, and level of GDP per capita to complex social qualities, that are making them more attractive, like level of democracy, good governance, human rights protection. International comparative practices show that there is a great difference between hard data, that can be easily compared, and other data – on humanitarian issues – that are hard to be measured, because there are too many parameters that need to be taken into account. Nevertheless, complex phenomena like democracy and human rights implementation are still in great need to be assessed particularly for the reasons of international comparison, that can be used by political leaders and citizens alike.

This data for comparative analysis is collected and analyzed by different international comparators, which use diverse methods, indices and techniques. Our assumption is that creation of indices on the issues involving politics and political interests – like democracy and human rights – does include a great deal of “human factor” – including different biases, from ideologies to actor interests to individual preferences, that define what is to be measured and how it should be done.

This is why the studies of democracy and human rights have been long in search of some 'objective' tools of analysis, so that to lower the bias of researchers' personal judgment and the institutional ideological or actor-driven interests and preferences.

There were many attempts to quantify the usually 'qualitative' data such as evaluations of government functioning, political and civic freedoms in the country etc. which are based on both 'hard' data (e.g. legislative bills, voting results, social statistics, official reports) and on experts' assessment of political process in the given country. Quantified and “aggregated” according to various formulas, these data become ratings – namely, ratings of democracy in case of our interest.

In search for alternative tools of analysis we also turned to mathematical methods – but concentrating not to the more traditional use of statistical analysis, but on the branch of mathematics called Formal Concept Analysis (FCA). In our research we use the FCA approach developed by Birkhoff G. “Lattice theory”, published in Providence, USA (1973) and Ganter, B., Wille, R. “Formal Concept Analysis: Mathematical foundations”, Springer, Berlin (1999).

FCA provides tools for understanding the structure of data given as a set of objects with certain descriptions (e.g., in terms of attributes they possess), which is done by representing the data as a hierarchy of concepts, or more exactly, a concept lattice (in the sense of lattice theory).

Besides structural representation of data, the concept lattice provides a framework in which various data analysis and knowledge acquisition techniques can be formulated.

Our final research task is to provide a tool “to assess the assessors” (international comparators), because we need an instrument to understand how their political interests and ideological biases can be placed against each other in one picture, providing a more objective view on the complex issue. We argue that such tool can be FCA.

In this paper we will focus on Indices, provided by such Democracy Evaluating Agencies, as Freedom House, Bertelsmann Foundation, Center for Systemic Peace, Economist Intelligence Unit.

1. Formal Concept Analysis as a universal mathematical method of working with qualitative data and its contribution to the set of tools of Democracy Evaluation.

Formal Concept Analysis framework or FCA , since its emergence in early 80-es in the information science, had been accepted by an interdisciplinary research community and very widely applied as a universal mathematical tool to work with big quantities of data.

As it was beautifully described recently by Kumar Aswani from VIT University in India, FCA " aims at discovering conceptual clusters (called formal concepts) in the data, which are described in the form of formal concept, discovering the data dependencies(called attributed implications), and visualizing them by a single conceptual structure called the concept lattice" (Kumar, 2011)

Both FCA founding fathers - Rudolf Wille and Bernhard Ganter (Ganter, Wille, 1999) - and broader research community often referred to FCA in contemporary academic literature together with "concept lattices" and " knowledge discovery", (Venter, at all...1997; Wille, 2002; Kumar Aswani, 2011; Stumme, 2009; Jiang , at all 2007), as those analytical instruments are interrelated and are often used together, supporting each other. As Venter had explained back in 1997, " the rapid pace at which data gathering, storage and distribution technologies are developing...to help humans to analyze, understand and digest " those vast amounts of data, which had led, in turn, to the " birth of knowledge discovery in databases - KDD - and data mining - a process that has a goal to " selectively extract knowledge from data ". So, almost 20 years ago it was made explicitly clear, that " data", " information" and " knowledge" are different things and that there should be certain techniques, like data mining and concept lattices, that may help not only to " extract knowledge ", but also help " navigation and visualization " of discovered knowledge. (Venter, at all 1997).

Later on , in his article on connection between concept lattices and knowledge discovery, Wille is proving this interrelation to be even more explicit by positioning concept lattices and FCA as a " support tool" of the latter. He is doing so by connecting both tools to the human way of thinking, claiming, that " concepts are the basic units of human thought ...and the basic structures of logic", concept lattices, as mathematical abstraction of concept systems, can support humans to discover information and create knowledge". He further provides short and clear definitions of both " information" and " knowledge" : Information = Data + Meaning , and Knowledge = Internalized information + Ability to utilize the information" (Wille, 2002)

FCA and concept lattice, been created as a universal analytical tool of data navigation and representation is currently applied in , probably, every sphere of knowledge where it is represented by the large amounts of structured, preferably numerical data – from history and anthropology to management, economics and linguistics, - with a special demand in practical governance, like health care, museums and libraries organization, traffic control and security management systems, where the number of “objects” under consideration is extensive and the “attributes” of those objects

are also multiple and connections between them is hard to keep in mind without the help of technology, that can “extract” needed knowledge from multiple interconnections and present it in a structured and clear form.

It had been only recently, though, that FCA is starting to be applied in political science - both to politics and policy studies, including the study of democracy evaluation, where the amount of regularly kept and well-maintained numerical data, that relate to solely political processes, is still not that huge and traditional mathematical methods, used in sociology, like regressions, were seen as sufficient and representations were also limited by traditional graphs and diagrams. But the field of public policy, which is closer to applied administrative research, is more integrated with practical governance, including the field of good governance, which is inevitably involved with regular governance evaluations, which is closely connected with democracy evaluation itself.

Therefore, the need to explore appropriate literature with respect to new tools of data processing and representation, had recently led policy analysts from HSE to discover Formal Concept Analysis, particularly through several interdisciplinary projects with colleagues from Artificial Intelligence department, that were already using FCAs in their regular research and were interested to try its application with respect to Democracy Evaluation and Human Rights protection, which led to a number of joint publications (Novokreshchenova, Shabanova, 2010; Novokreshchenova, Shabanova, Zaytsev, Belyaeva, 2010; Obiedkov, Klimushkin, Shabanova, Zaytsev, 2013; Shabanova, Klimushkin, 2010; Sheetova, Popova, Novokreshchenova, 2010). This partnership between policy analysts, mathematicians and linguists had to create a method of self-translation within same research text, because it was supposed to be used for both research communities : for mathematical discussions on tools and their application, like presentations on “Linguistic processing in lattice-based taxonomy construction” at the conference of Concept Lattices and their Applications (Novokreshchenova Novokreshchenova, Shabanova, Zaytsev, Belyaeva, 2010; Kryszkiewics, Objedkov, Eds.,2010) and policy analysis discussions, focused on democracy evaluation and human rights implementations in a difficult dialogue between Russia and Council of Europe, where communities involved are not used to mathematical language, so it needed to be “self-translated” in the same text. (Novokreshchenova, Shabanova, Zaytsev, Belyaeva, 2010;)

Such self-translation or , put in another way, double explanation of the FCA method – in mathematical language and policy-analysis language proved to be useful, so what follows in this sub-chapter is the description of FCA content, first, in math terms and then – in more “common language”, that explains the substance of FCA format and its possible application to human rights

Implementation analysis and democracy evaluation.

Formal concept analysis (FCA) (Ganter, Wille, 1999) provides tools for understanding the structure of data given as a set of objects with certain descriptions (e.g., in terms of attributes they possess), which is done by representing the data as a hierarchy of concepts, or more exactly, a concept lattice (in the sense of lattice theory) (Birkhoff, 1973). Every concept has extent (the set of objects that fall under the concept) and intent (a set of attributes or features that together are necessary and sufficient for an object to be an instance of the concept). Concepts are ordered in terms of being more general or less general (i.e., covering more objects or fewer objects).

The concept lattice, being a rather universal structure, provides a wealth of information about the relations among objects and attributes, which made possible applications in areas ranging from history and sociology (Mohr, Duquenne, 1997) to epistemic community detection (Roth, Obiedkov,

Kourie, 2006) and social network analysis (Freeman, 1996) to machine learning (Ganter, Kuznetsov, 2000) and ontology construction (Stumme, Maedche, 2001). Indeed, it can help in processing a wide class of data types (for example, any data represented as a table). Besides structural representation of data, the concept lattice provides a framework in which various data analysis and knowledge acquisition techniques can be formulated.

We briefly introduce necessary mathematical definitions (Ganter, Wille, 1999) and then explain them less formally. Given a (formal) context $K = (G; M; I)$, where G is called a set of objects, M is called a set of attributes, and the binary relation $I \subseteq G \times M$ specifies which objects have which attributes, the derivation operators $(\cdot)'$ are defined for $A \subseteq G$ and $B \subseteq M$ as follows:

$$A' = \{m \in M \mid \forall g \in A : gIm\} \quad B' = \{g \in G \mid \forall m \in B : gIm\}$$

In words, A' is the set of attributes common to all objects of A and B' is the set of objects sharing all attributes of B .

If this does not result in ambiguity, $(\cdot)''$ is used instead of $(\cdot)'$. The double application of $(\cdot)'$ is a closure operator, i.e., $(\cdot)''$ is extensive, idempotent, and monotonous. Therefore, sets A'' and B'' are said to be closed.

A (formal) concept of the context $(G; M; I)$ is a pair $(A; B)$, where $A \subseteq G$, $B \subseteq M$, $A = B'$, and $B = A'$. In this case, we also have $A = A''$ and $B = B''$. The set A is called the extent and B is called the intent of the concept (A, B) .

A concept (A, B) is a subconcept of (C, D) if $A \subseteq C$ (equivalently, $D \subseteq B$). The concept (C, D) is then called a superconcept of (A, B) . We write $(A, B) \leq (C, D)$ and define the relations \geq , $<$, and $>$ as usual. If $(A, B) < (C, D)$ and there is no (E, F) such that $(A; B) < (E; F) < (C; D)$, then $(A; B)$ is a lower neighbor of $(C; D)$ and $(C; D)$ is an upper neighbor of $(A; B)$; notation: $(A; B) \prec (C; D)$ and $(C; D) \succ (A; B)$.

The set of all concepts ordered by \leq forms a lattice, which is denoted by $\beta(K)$ and called the concept lattice of the context K . The relation \prec defines edges in the covering graph of $\beta(K)$.

Speaking less formally, the context makes precise the scope of the discussion by specifying the domain to which it applies (listing all the objects of this domain) and defining the terms in which it is going to be discussed (listing the attributes to be used in object descriptions). For example, if we wish to analyze democratic development, one thing we need to do is to specify the geographical (e.g., Central and Eastern Europe) or otherwise restricted (e.g., the third-world countries) area under consideration and to divide this area into individual entities subject to democratic development. We can talk about countries, but we could instead choose to talk about regions (such as Balkan countries as a whole, CIS countries, etc.) or - perhaps, less easily in this case - about certain areas within each country, thus, controlling the level of granularity. These entities are the objects of our context.

We also need to identify and fix a set of parameters of democratic development to be used in our discussion. These are the attributes of the context, and they can also be different with respect to granularity. For instance, we could use four parameters, such as (1) Freedom of Expression and Belief, (2) Associational and Organizational Rights, (3) Rule of law, and (4) Personal Autonomy and Individual Rights to evaluate civil liberties in each country (as does the Freedom House in its

“Freedom in the World” rating), or we could use just a single parameter for the same purpose. Besides selecting a level of granularity for parameters, we may also decide to take or not to take a particular parameter into account (an example is political culture, which features as a separate parameter in the Democracy Index of the Economist Intelligence Unit, but not in the “Freedom in the World” rating).

A formal concept is usually visualized by means of a cross-table, where rows correspond to objects, columns correspond to attributes. An otherwise empty cell contains a cross if the respective object has the respective attribute.

A formal concept of a formal context is a mathematization of the old philosophical tradition of characterizing a concept through of its extension (or extent) and intension (or intent), so that the extension consists of precisely all objects having all attributes of the intension and the intension contains exactly all attributes shared by all objects of the extension. To give an (oversimplified) example, one can hypothesize a concept whose extent consists of all countries with low level of personal autonomy and individual rights. Assuming that the latter is an attribute of our context, the intent of this concept will contain this very attribute, but also all other attributes shared by such countries in the context - e.g., “inadequate enforcement of rule of law” if every country with low level of personal autonomy and individual rights in our context exhibits this trait, too.

This leads us to the notion of an implication, which is, formally, an expression $A \rightarrow B$, where $A; B \subseteq M$ are attribute subsets. It holds in the context is $A' \subseteq B'$, i.e., every object of the context that has all attributes from A also has all attributes from B. A simple example of an implication is

{“low level of personal autonomy and individual rights”} \rightarrow {“inadequate enforcement of rule of law”}, which may or may not hold in a particular context. A is called the premise and B the conclusion of the implication $A \rightarrow B$. Neither A nor B has to be single-element, although they both are in the above example.

Note that concepts and implications are inherently context-dependent. In particular, the extent of a concept depends on our choice of attributes used to describe the objects, while the intent depends on the objects included in the context. One concept is more general than another one if the extent of the former covers all objects from the extent of the latter and some other objects. Clearly, the intent of a more general concept should be narrower (i.e., should contain fewer attributes) than the intent of a less general concept: a larger set of object shares a smaller set of attributes. This generality order is captured by the sub concept - super concept \leq relation defined above. This relation has some special properties, and, mathematically, is a partial order, which means that two different concepts cannot both be more general than the other, but they can be incomparable. In addition, this partial order is a lattice: every two concepts have a unique least general generalization and a unique most general specification.

Concept lattices are visualized with line diagrams, where every node corresponds to a concept and more general concepts are placed above less general ones. Two concepts are connected with a line if one is more general than the other and there is no concept between the two. We will see examples of line diagrams in the next sections.

FCA is not a technique but a framework, i.e. it is a broader methodological framework for data analysis which can be applicable to a variety of disciplines from history to computer science. Among other things, FCA can be used in comparative research and case studies. The matrix of

objects and attributes can be built also for comparative inter-country social analysis. FCA is not aimed at discovering cause-and-effect relations. However, the main result of using FCA - the hierarchy of objects and attributes - allows to draw conclusions about the relations between the attributes, their mutual influence; it enables the researcher to build 'fuzzy typologies' of objects and attributes, and to determine the sequence of the objects depending on their set of attributes and the extent to which they have them.

Furthermore, FCA give the researcher a possibility to combine qualitative and quantitative data and, moreover, to transcend the limitations of solely qualitative or quantitative paradigms of data analysis.

So, FCA looks very promising in terms of addressing the research tasks which require analysis of complex and multifold processes in contemporary societies.

Democracy with adjectives

To present an example, on how FCA works and what exactly it can contribute to the study of democracy and its evaluations, we want to refer to one of those joint works, that was done in a joint project with Artificial Intelligence department, the one on " Democracy with adjectives" (Sheetova, E., and all, 2010)

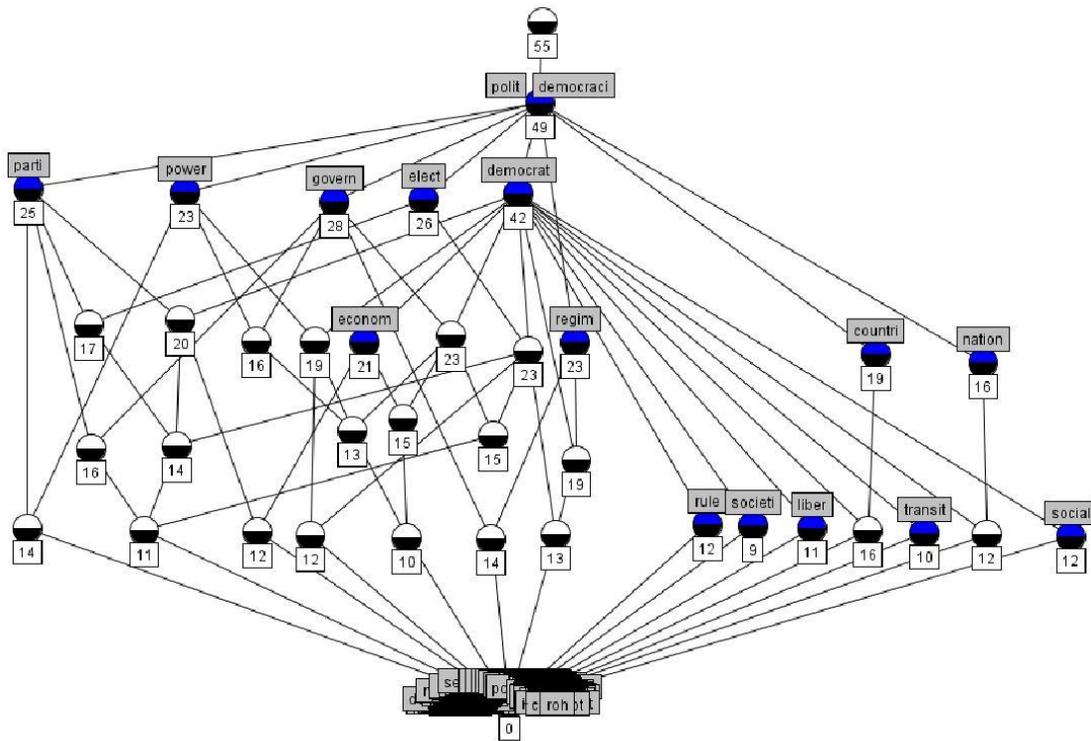
The problem, that this work was dealing with is one of the central in democracy studies and deals with the democracy definition itself, particularly given the fact, that many countries, even those, who had consciously and willingly have chosen democratic development as their strategy, had not accomplished this goal . Instead of moving toward full democratic transition, they got stuck somewhere on the way and even turned back to prior authoritarian, bureaucratic or even feudal practices, which are combined with some existing democratic institutions, like elections, parliaments and political parties , that allows analysts still to call them " formal democracies" or " democracies with defects", or simply " defective democracies" Together with the term " defective "that had captured researchers attention as useful characteristic of this phenomena, there were many others, that had appeared, attaching to the concept of democracy some " additional names" , or adjectives, like " plebiscite democracy", " over managed democracy", that referred to the counties of post-soviet bloc, and " minimalist", " pseudo-democracy" or " facade democracy", that referred to some African and Asian countries .

All of this shows, that " adding adjectives" to describe the phenomena of democratic failures had become some sort of a new phenomena and there more and more research works appearing, that create more and more of such terms, that aspired to have some conceptual meaning, but, in fact, were complicating the understanding the democracy concept itself, burring it with too many additional attributes, that in many cases added new attributes without full consideration of the existing ones, but using those new terms - with adjectives - in the meaning of concepts. So, the task was to try to come to terms with those concepts through analyzing the biggest possible body of texts, where those terms were not only mentioned, but also described with a certain set of attributes, in order to see, which attributes, describing democracy , were common in all definitions and which were special and how do they correlate with each other in terms of their conceptual meaning.

For this goal , after selecting 55 analytical texts from academic journals, describing " democracy with adjectives" ,adapting those texts for machine use and applying vector model of linguistic

analysis, belonging to " bag of words methods" and applying the FCA structure to finding hierarchy of used concepts and their connections, the following lattice was created.

Fig.1



In this lattice we see the key terms, that have the meaning of concepts, that were reduced for machine use like " govern ", " elect ", " rule", " libber" or " democrat", which meaning , despite of refection, can be easily captured . The form of lattice allows to see both hierarchy of the used terms - which of them is a super-concept and sib- concept to each other, and how are those concepts are connected horizontally - e.i. existing on one level, but subordinate to the one common heretical concept. Numbers in squares are number of texts, that contain this term-concept. For example, in 21 texts they are mentioning of " economy" concept, that is a sub-concept of " democrat", used in 42 texts, but " economy" is not hierhaly connected to " elect", which is used in 26 texts (out of 55 analyzed) and it suggests, that authors of those texts in their argumentation claim, that " economy" can be " democrat" by-passing " elect" and still reach out, conceptually, to the " political democracy", which is the mostly used term-concept in all those texts - in 49, but even this concept is not unifying for all the texts.

The interpretations of those findings can focused on numbers, intensity and hierarchy of connections for each term, but the whole picture at large gives even more interesting conclusion : the analyzed 55 texts - all by unique authors , all members of democracy studies global community , are clearly divided in two big groups , that are almost totally disconnected conceptually , despite of the most generalizing concepts of " democracy itself" and " political democracy". The group on the left part of the lattice are those, who understand and describe democracy as " procedural minimum", using the concepts such as " elections", " parties " and " government". The group on the right part - see democracy as " civilization maximum", are those who include in their democracy conceptualization

such sub-concepts as " society", " liberalism" and " rule of law", " nation", - and all of them have a shaper-concept of " democrat", meaning that all of those terms are conceptualized through been inherently democratic.

So, by this research techniques of selecting texts and words and putting them though machine processing, providing a heretical graph of concepts used in these texts, we were able to learn a completely new phenomena : the striking decision of academic community on the issue of democracy conceptualization.

This is to say, that we had gained new " knowledge , as usable information", as we had identified a new problem and we can now work on it.

For the more detailed description - both of the research design, methodology and interpretations, as well as the bibliography of all texts included into analysis (see Elena Sheetova and all 2010)

To conclude the part of introducing FCA opportunities as a research technique want to state, that it proves to be a useful additional tool of data mining, allowing to extract new knowledge from the collected data, particularly in comparisons of multiple objects of analysis with many attributes, which connections to each other are loose and uncertain. It allows to visually present the intensity and hierarchy if connections both between objects and attributes and discover their intrinsic connections and belonging to one or several clusters, that may be not indentify able otherwise.

2. The power of " democracy indicator". Challenge of conceptualization, scope of concept, competition of concepts meaning and value of indicators. How can visualization help.

As the example with " defective democracies " had demonstrated, one of the major challenges in democracy evaluation studies is the problem of conceptualization, that attributes the democracy concept with very different parameters, on which it should be assessed , or measurable indicators.

This problem becomes even more explicit, when those different democracy definitions are taken as foundations for the formulation of parameters for democracy evaluations and rankings by different Democracy Ranking Agencies. While all of those Agencies have solid theoretical background behind their announced democracy parameters , responding to the need for academic legitimization of the rankings results, have some of them base their rankings on " minimalist" or " electoral" democracy tradition, which insists on gather few demands to be fulfilled to be called democracy, the others, instead, are following " maximalist tradition", which demands the inclusion into assessment not only electoral, governance and respect to civil liberties requirements, but also economic pluralism and industrial democracy, societal stability, social equality and high level of civil participation.

To make an account of those different traditions in minimalist - maximalist democracy definitions, we have grouped them in five basic approaches to democracy evaluation.

The first group of approaches (Electoralist Definition) gives the 'minimalist' definition of democracy initially proposed by Schmitter: free and fair election procedure based on universal suffrage. It is interesting to note that among the contemporary democracy ratings only Vanhanen's index of democracy relies on such a definition.

The second tradition of defining democracy (Procedural Minimum Definition) includes elections and guarantees of basic civil freedoms (freedom of speech, association, and assembly) in its essential list. The third tradition (Expanded Procedural Minimum Definition) follows closely the second one, adding the condition of independency of elected powers and the ability of elected officials to have real impact. Researchers working within this tradition use Robert Dahl's work as their basis. It is worth noting, that we do not know democracy ratings using the second tradition's definition, while Dahl's legacy is relatively popular in the creation of indices, e.g. Polity IV.

The fourth tradition - Prototypical Conception of Established Industrial Democracy - proved to be most widely used by developers of ratings and indices. It includes the features of R. Dahl's poliarchy as well as additional political, economic, and social features associated with industrial democracy. More accurately, these additional properties are characteristic rather of liberal democracy than industrial one, such as guarantees of citizens' security, low corruption level, protections for minority rights, and, finally, widespread notion of participatory political culture.

The last but not the least tradition of democracy definitions (Maximalist Definition/ Conception) focuses not on institutional and procedural features of democracy but on its political and social prerequisites and conditions: socioeconomic equality; and/ or high levels of popular participation in economic, social, and political institutions. Relevant examples of the ratings and indices for this tradition combine political and economic indicators, e.g. BTI Status Index.

Tab. 1. Democracy ratings and corresponding schemes of democracy conceptualization

| Associated Meanings | Electoralist Definition | Procedural Minimum Definition | Expanded Procedural Minimum Definition | Prototypical Conception of Established Industrial Democracy | Maximalist Definition/ Conception |
|--|-------------------------------|-------------------------------|--|---|---|
| Reasonably competitive elections, devoid of massive fraud, with broad suffrage | Yes | Yes | Yes | Yes | Often not included |
| Basic civil liberties: Freedom of speech, assembly, and association | | Yes | Yes | Yes | Often not included |
| Elected governments have effective power to govern | | | Yes | Yes | Often not included |
| Additional political, economic, and social features associated with industrial democracy | | | | Yes | Often not included |
| Socioeconomic equality; and/ or high levels of popular participation in economic, social, and political institutions | | | | | Yes |
| EXAMPLES OF INDEXES | Vanhanen's index of democracy | - | Polity IV Project - Fragility Index | BTI Democracy Index FH Freedom in the World FH Nations in Transit | BTI Status Index Economist Democracy Index |

This table clearly shows, that Democracy Indexes are based on very different approaches of assessing democracy : while some follow the " minimalist" model, the others add more and more parameters and indicators, driving toward the " maximalist " or " close to ideal " definition.

What it boils down to, as the result of applying those different assessment models, some make their conclusions on just focusing on electoral behavior, then countries like Nigeria, Russia and Singapore may look on such scoring quite similar, while in other rankings, where the parameters are multiple, they would be sown on their scores way apart.

So, one of the first conclusions is, that rankings so much differ, because Ranking Agencies use different concept base for their comparisons.

This, in turn, provides quite simple example of "comparison of comparators", based on their research models, which is unavoidably connected to their interests, goals and target audiences they want to sell their products, which will be dealt with later in part five of this paper, devoted to " portraits of Democracy Ranking Agencies".

But conceptualizations only the first stage of democracy evaluation, what comes next is operationalisation, which reveals more problems to consider, namely, the problem of describing various democracy parameters, that are done in different terms, creating a specific language, that becomes unique to certain research model, developed by particular Ranking Agency, which makes them ever hard to compare.

This problem had been already addressed by researchers, particularly Larry Diamond and Leonardo Morlino, stressing importance of distinguishing between those democracy parameters , that describe features of " quality of democracy" and those, which address its flaws and defects. (Diamond, L., Morlino, L., 2005)

Operationalisation problem of democracy evaluation techniques was also addressed in academic literature, presenting existing challenges in this process as two-fold : first is to avoid redundancy and using non-essential indicators, and the second one is to avoid conflation, i.e. combining several important indicators into one, thus, devaluation their individual importance. (Munck, G.L., Verkuilen, J., 2002)

More to this problem, the very " major democracy parameters", by which it is characterized in the Indexes, that go beyond " minimalist" model and use a number of such key parameters, like electoral process, rule of law, level of pluralism and participation - are also detailed by very different indicators.

Let's use an example of two Democracy Ranking Agencies, that are applying same conceptual model of democracy - that is referred in a table as " established industrial democracy" - BTI Democracy Index and Freedom House Ranking " Freedom in the World". Let us see how do they describe one of the parameters of measuring democracy, that they both consider to be important enough to name and score it separately .

For instance, in BTI Democracy Index the "Rule of Law" parameters is divided into several indicators: separation of powers, independent judiciary, prosecution of office abuse, civil rights. Firstly, there is definitely a conflation present: "Civil rights" should be a parameter equal to "Rule of Law", as it is present in Freedom House's index. Secondly, detailing of parameter "Rule of Law" can be contested too. Freedom House's rating divides Rule of Law into the following parameters: independent judiciary; the rule of law prevails in civil and criminal matters; police under direct civilian control; protection from political terror; laws, policies, and practices guarantee equal

treatment. The only overlap between these two operationalisations of “Rule of law” is the indicator “independent judiciary”, the rest of them differ. On the one side, these differences can be viewed as a problem of conceptualization – though not of democracy itself, but of its parameter Rule of law.

On the other side, they can be viewed as a problem of operationalisation – an omission of important aspects of the parameter. Often the reduction of parameter is caused not by the challenges of conceptualization, but rather by difficulties of measuring the selected parameters. Researchers compromise by omitting some of the indicators, thus diminishing the scope of the selected parameter. Furthermore, addressing the challenges of operationalisation is complicated by close interrelations between the selected parameters of democracy. It becomes apparent already during the conceptualization stage.

For example, when L.Morlino selects democratic qualities (rule of law, electoral accountability, inter-institutional accountability, participation, competition), he speaks about interrelations between them (Morlino, 1998, 2009). This, in its turn, creates further difficulties for operationalisation of the selected parameters. The closer they are related to each other, the higher are the chances that detailing will reveal indicators which can be attributed to several parameters at once.

As a result, the researcher is faced with a task of determining unique indicators for each parameter. Thus, the challenge of operationalisation can be summed up as a competent and thought-through reduction of democracy development indicators. So, what may be a possible way to overcome the difference of in constructing those parameters and indicators, that make them hardly comparable, to make use of the data they provide? Are the final rankings, asserted to the measured object, which in our case are the countries status in democracy process, adequate to the goals of decision -making for curter democratic development?

If we know, that those final scores, assigned to the countries, are calculated with the help of incompatible indicators, can we still compare those different rankings? Can this comparison provide us with new knowledge? How can we make use of this knowledge in public policy process? This is what we will try to do in next parts of this paper, using the tool we believe is useful for this, which is - visualization of data in its various forms.

To make visualization work, we will take the examples of the countries, which belong to the same cluster of post-soviet political realm, and which current and recent democratic development we know well, belonging to this policy analysts community - they are all with same roots of basic political culture, but with quite different institutional and government structure and different recent history of political events, that made their " paths do democracy" look quite different - those are Ukraine, Russia and Kazakhstan.

To compare, how those countries " look" on their current comparative status of democratic development, as measured by two Democracy Ranking Agencies with similar democracy conceptualization and, at least, similar number of key measured democracy parameters, we have taken data from BTI Democracy Status Index and Economist Democracy Index, both on 2012 and presented this measurements in both table form and then - in Radar Graphs.

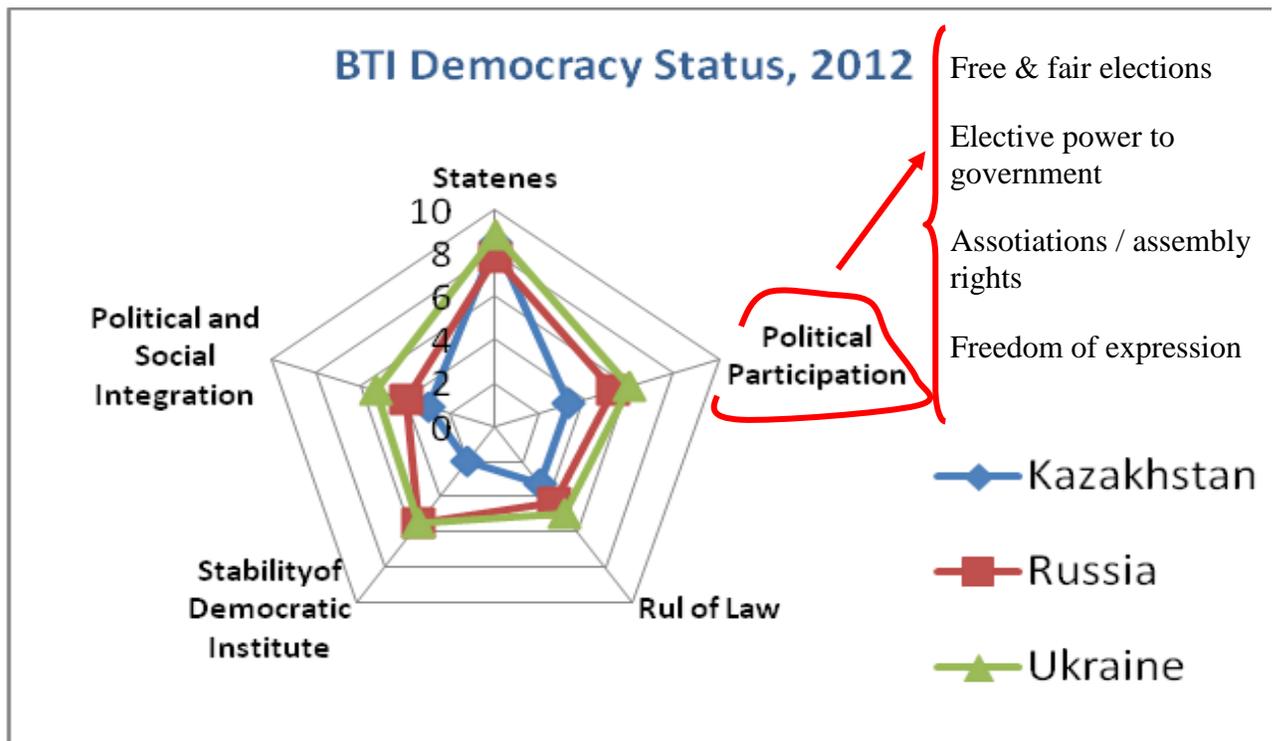
Tab № 2. BTI Democracy Status, 2012 (integrated part of BTI Status Index)

| | Statenes | Political Participation | Rul of Law | Stabilityof Democratic Institute | Political and Social Integration |
|------------|----------|-------------------------|------------|----------------------------------|----------------------------------|
| Kazakhstan | 8,5 | 3,3 | 3,3 | 2 | 3 |
| Russia | 7,8 | 5,3 | 4,3 | 5,5 | 4 |
| Ukraine | 8,8 | 6 | 5 | 5,5 | 5,3 |

Ratings are based on a scale of 1 to 10, with 1 representing the lowest level and 10 the highest level of democratic development

Sources : <http://www.bti-project.org/home/>

Fig. 2. BTI Democracy Status, 2012



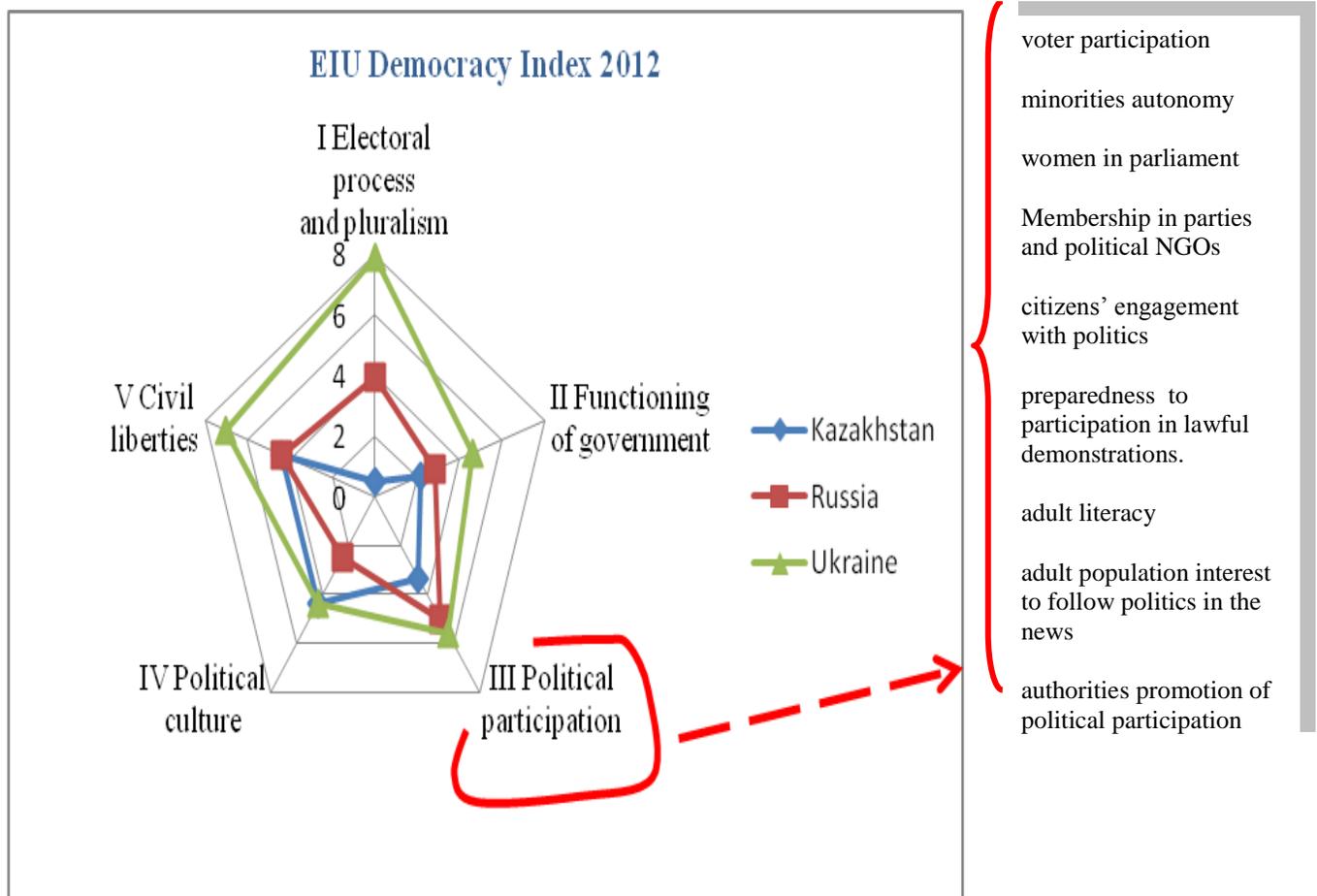
Tab № 3. EIU Democracy Index, 2012

| | I Electoral process and pluralism | II Functioning of government | III Political participation | IV Political culture | V Civil liberties |
|------------|-----------------------------------|------------------------------|-----------------------------|----------------------|-------------------|
| Kazakhstan | 0,5 | 2,14 | 3,33 | 4,38 | 4,41 |
| Russia | 3,92 | 2,86 | 5 | 2,5 | 4,41 |
| Ukraine | 7,92 | 4,64 | 5,56 | 4,38 | 7,06 |

The Economist Intelligence Unit's index of democracy, on a 0 to 10 scale with 10 representing the highest level and 0 the lowest level; index based on the ratings for 60 indicators grouped in five categories: electoral process and pluralism; civil liberties; the functioning of government; political participation; and political culture. Each category has a rating on a 0 to 10 scale, and the overall index of democracy is the simple average of the five category indexes.

Sources : <http://country.eiu.com/AllCountries.aspx>

Fig. 3. EIU Democracy Index, 2012



What we see, is that the data, aggregated in table format can be hardly compared at all, but the figures, that the made by the same data in Radar Charts, have very similar shape, where the description of the specific parameters is substituted by their placement on the radial vector, that allows it to be compared.

What is particular interesting to notice, is the parameter “Political Participation” and how differently it is been described by BTI and Economist Intelligence Unit: while the BTI has only four indicators,

including “Free and Fair Elections”- which is, most surprisingly, not a part of “Statenes” – while the EIU describes “participation” by more than 10 indicators, each of by answering 3 to 5 questions.

Nevertheless, if we take just the “final vision”, Kazakhstan looks worst on most of parameters, than Russia and Russia looks worst than Ukraine, which allows to make a very general conclusion, that both Rankings, regardless of using different indicator and , obviously, measuring different things, have emerged at quite similar results, which allows to say those Rankings had passed the “reality check” – by both country experts and country citizens, as there is a constant “democracy migration” from Kazakhstan to Russia and from Russia to Ukraine.

It’s worth noticing, that both BTI Status Index and Economist Democracy Index are both using the “maximalist model” of defining democracy, using the maximum number of both parameters and their indicators, that allows to assume, that “maximalist model” allows to capture both similarities and differences of democratic development in countries, belonging to same or similar cluster.

Let us now look, how the same countries comparison, according to the data on the same year, provided by two other Democracy Ranking Agencies – Center for Systemic Peace Polity IV Report and Freedom House’s Nations in Transit Index.

To provide a guide for understanding the data we give it first in a table form – Tab. # 3 and Tab.#4 that are also followed by a short description of the parameters and scoring techniques and logic, taken from the description, that Agencies themselves are providing on their methodology.

Tab № 4. CSP Polity IV Report, Fragility Index, 2012

| | Institutionalized Democracy | Regulation of Participation | The Competitiveness of Participation |
|------------|-----------------------------|-----------------------------|--------------------------------------|
| Kazakhstan | 0 | 3 | 2 |
| Russia | 5 | 3 | 4 |
| Ukraine | 6 | 2 | 3 |

Score ranges from +10 (full democracy) to !10 (full autocracy). Each of the Matrix indicators is rated on a four-point fragility scale: 0 “no fragility,” 1 “low fragility,” 2 “medium fragility,” and 3 “high fragility” with the exception of the Economic Effectiveness indicator, which is rated on a five-point fragility scale (including 4 “extreme fragility”). The State Fragility Index, then, combines scores on the eight indicators and ranges from 0 “no fragility” to 25 “extreme fragility.” A country’s fragility is closely associated with its state capacity to manage conflict; make and implement public policy; and deliver essential services and its systemic resilience in maintaining system coherence, cohesion, and quality of life; responding effectively to challenges and crises, and sustaining progressive development.

Sources : <http://www.systemicpeace.org/>

Tab № 5. FH Nation in Transit Index, 2012

| | Electoral Process | Civil Society | Independent Media | Judicial Framework and Independence | Corruption |
|------------|-------------------|---------------|-------------------|-------------------------------------|------------|
| Kazakhstan | 6,75 | 6 | 6,75 | 6,5 | 6,5 |
| Russia | 6,75 | 5,25 | 6,25 | 6 | 6,5 |
| Ukraine | 3,75 | 2,75 | 4 | 6 | 6 |

Ratings are based on a scale of 1 to 7, with 1 representing the highest level and 7 the lowest level of democratic development

Sources : <http://www.freedomhouse.org>

Tables show data that is almost completely incompatible – by parameters, indicators and even goal of scoring itself: in case of SCP it is “fragility” and in case of FH it is “transit to democracy”, which

in number of cases might be even opposing to each other : fast democratic transition may be the exact cause of state fragility, as it was proved by recent democratic revolutions in North Africa.

Fig. 4. CSP Polity IV Report, Fragility Index, 2012

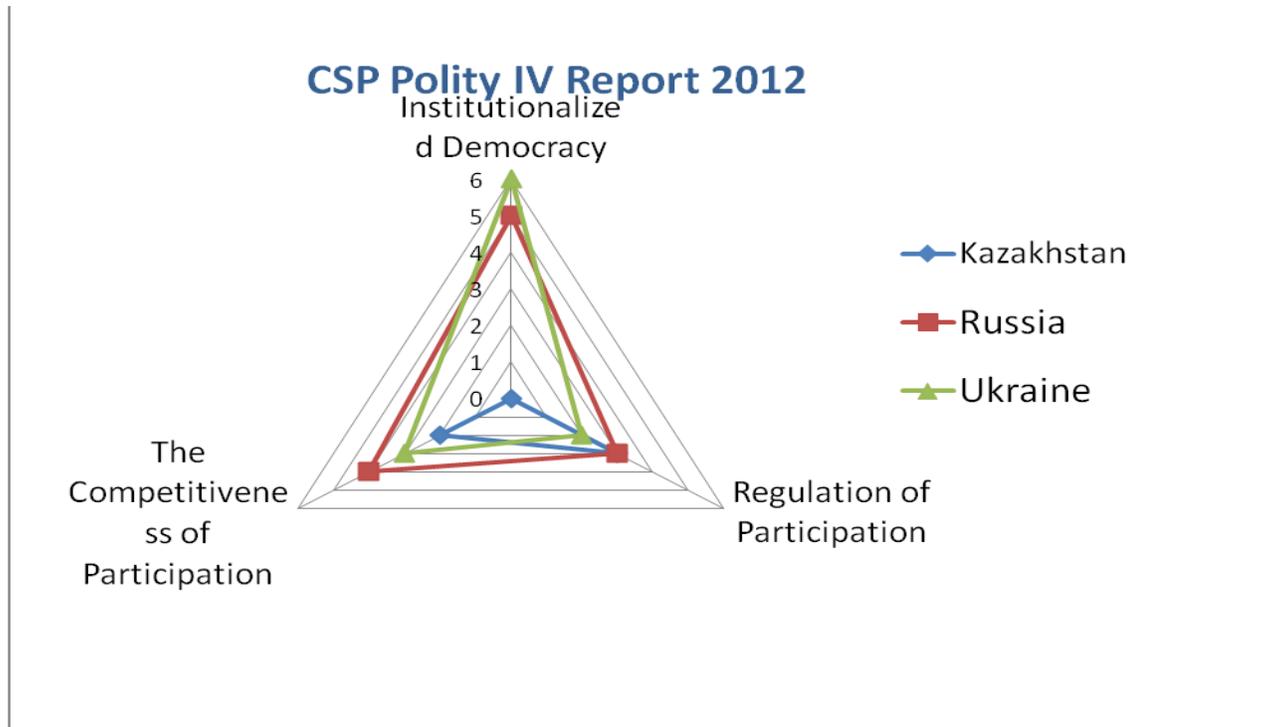
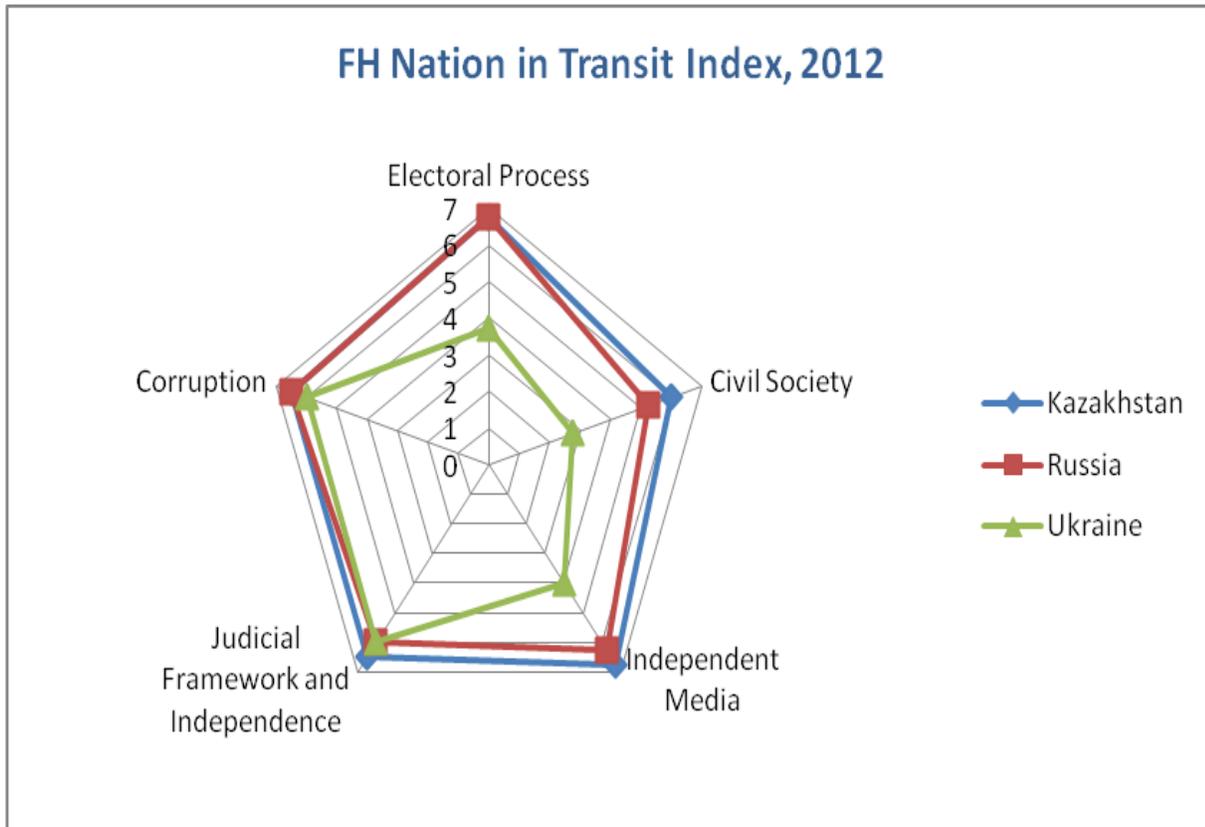


Fig.5. FH Nation in Transit Index, 2012



After taking into account all of those differences, let us look at the same information, that is visualized in the format of Radar Charts, trying to discover opportunities for adequate comparisons, where we focus not on learning the country statuses, which we assume we know, but what this visually structured data allows us to say about the parameters, the indicators and the Ranking Agencies themselves, in terms of “what is their focus” linked to “what is their interest” and how this “ranking interest” of a particular Agency might appear visually in a graph, made upon their own data.

This aspect of analysis provides for a lot of different interpretation, that might be the focus of the further analysis, but may be said now, is that those Agencies comparison between Ukraine, Russia and Kazakhstan in a very different way: while for SCP both the “competitiveness of participation” and “regulation of participation” differs between the countries quite significantly, ranking Russia as most fragile of the three, followed by Ukraine and then Kazakhstan as “less fragile”, and for “institutionalized democracy” Russia and Ukraine are almost the same and both ranked quite high, while Kazakhstan ranked “O”. For the Freedom House, on the contrary, on almost all parameters Russia is hardly distinguished from Kazakhstan, which both ranked close to “top authoritarian”, while Ukraine is positioned completely different, almost twice as good on three key parameters, including “electoral process”, “civil society” and “independent media”. Both of those pictures are far from reality and suggests, that there must be something wrong with measurements.

Comparing two Radar Graphs, positioning democracy ranking of three countries with similar history and same starting position regarding democracy development, suggests the new an opportunity to discover a new knowledge of comparing Ranking Agencies themselves and visualize their different preferences in looking at different countries: while Ukraine, Russia and Kazakhstan are becoming more different from each other, some Agencies see Russia much more close to Ukraine, while others position Russia as much the same as Kazakhstan.

One of possible assumptions for the reasons of such sharp differences in scoring results and “simplifications of conclusions” can be the result of “mistakes in techniques”, of different conceptualization and operationalization of parameters. We think it is hardly probable, that those “mistakes” are made without notice, because all the research teams, producing those rankings are highly professional, well qualified and very well paid and the rankings are done in strict accordance with the logic of data collection and aggregation, on the base of the well-thought research design, following the unique goals of each Ranking Agency. Then, the reason for the differences in scores may be found in a deeper layer, the differences of the goals of Ranking Agencies, involving their inherent interests, preferences and biases.

Let us try to check this hypothetic looking on a different visualization of the data on the same three countries – Ukraine, Russia and Kazakhstan – by comparing their resulting score of the democracy status, given by four different Democracy Ranking Agencies during the last decade, that shows the direction and speed of countries democratic development by a single “democracy level line” for the same decade. Placing those “democracy level lines” over each other on one graph, allows to see, how different Ranking Agencies were assessing and scoring certain periods and land-marks of political development, that also shows their different attitude to the analyzed countries.

As it is seen on the pictures below, the “shapes and democracy lines” are all completely different, which suggests, that the very same events in those countries – from 2003 (Khodorkovsky arrested in Russia) to 2006 (Orange Revolution in Ukraine) and 2012 Putin’s “third term” were accounted for differently, that proves the point, that those Agencies are not that “indifferent” and “objective”,

providing “technical knowledge” to political decision-maker, but may have their own interests and goals, that they pursue by promoting their position through public democracy rankings of countries.

Fig. 6. BTI Democracy Status, 2003 – 2012

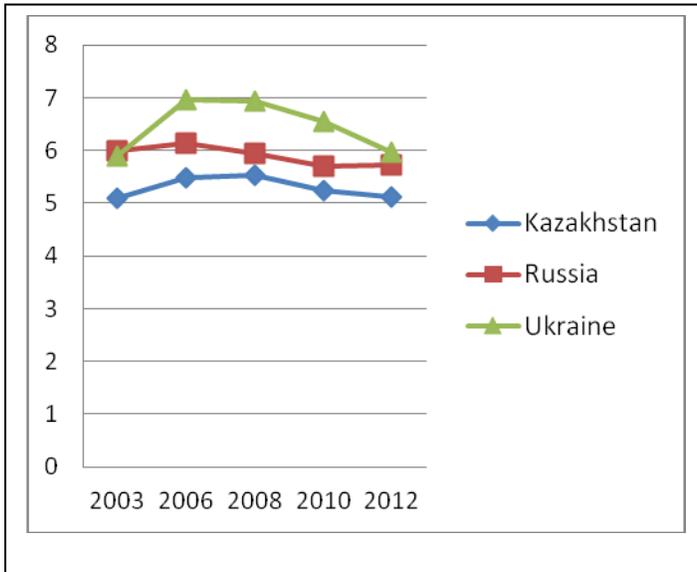


Fig.7. EIU Democracy Index, 2003 - 2012

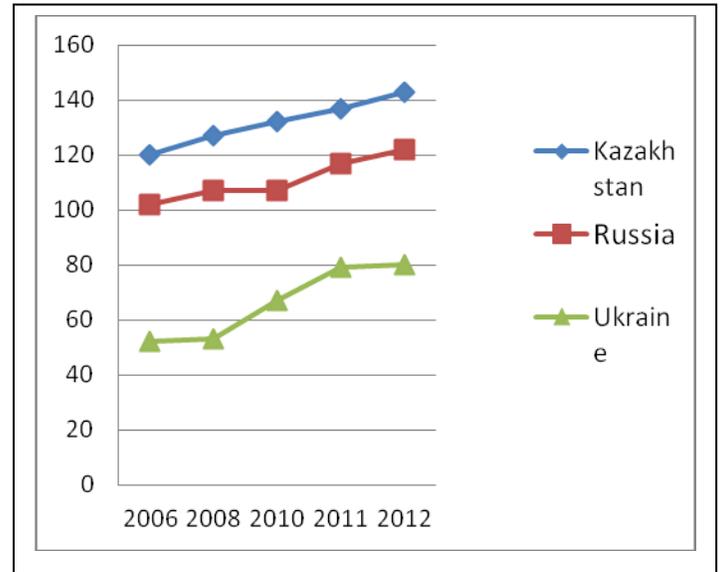


Fig.8. CSP Polity IV Report, Fragility Index

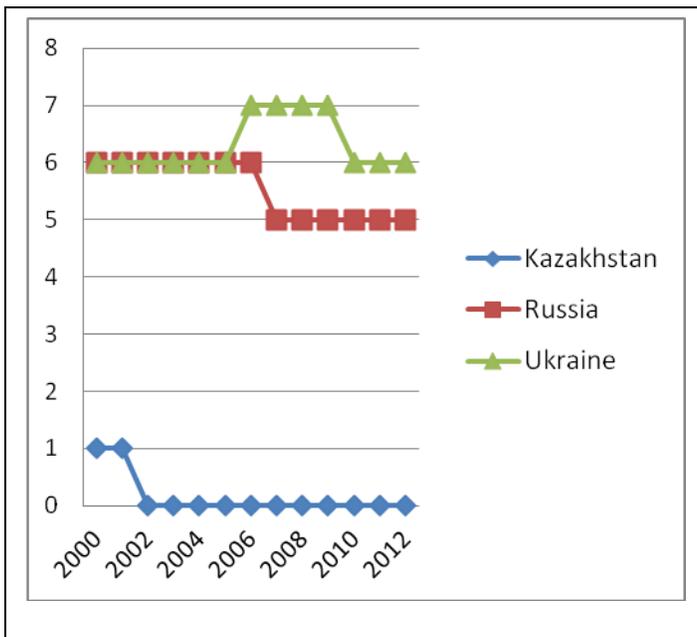
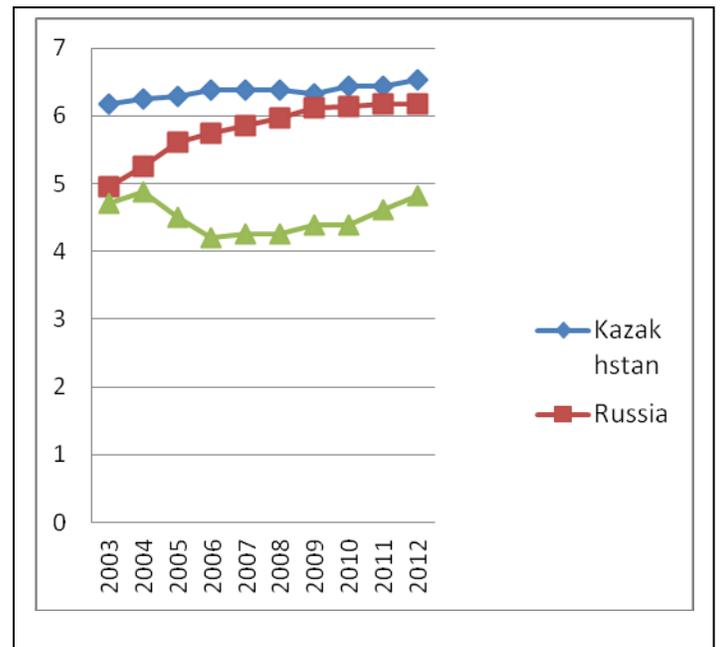


Fig.9. FH Nation in Transit Index



3. Actor-centered approach to Democracy Evaluation : who are the judges ? The analytical portraits¹ (?) of Democracy Evaluation Agencies.

Both actor -centered approach to public policy (Belyaeva, N, ed, 2007 ?) and long -standing tradition of description of think-tanks and actors in global public policy had distilled the minimum necessary parameters for adequate presentation of an " actor in public policy", which include at least five of them:

- Who, when and where had established this institution ?
- Which social and political challenge it was supposed to respond to ?
- What are the main spruces of funding of its work and what are the conditions and getting financial resources and operate over them ?
- What kind of of usable products are resulting from their work, including knowledge - based products and what is there consumers value?
- Who are the most frequent consumers of those products and what are they used for, meaning which interests they are able to satisfy.

Using those questions as a guide, let us try to extract the needed data from the opened internet resources available on the work of the major Democracy Ranking Agencies and create " actor portraits" of each of them according to this parameters.

Bertelsmann Foundation / BTI Democracy Status

The largest private operating non-profit foundation in Germany, created in 1977 by Reinhard Mohn. The Bertelsmann Foundation holds 77.4 percent of Bertelsmann AG. The Foundation is based in Gütersloh, with representations in Berlin, Barcelona, Washington D.C., and Brussels

Founders determines it as follows: The Bertelsmann Stiftung is both a think tank and an agent for social change. The Bertelsmann Foundation is active in political, social, economic, educational, cultural and health-related issues. It does not provide grants, scholarships or project funding to others, but focuses on researching, publishing and stimulating public debate on its topics. It is active worldwide and has since inception spent around €868 million on nonprofit projects. The total budget for the 2010 fiscal year was €60.3 million, according to the foundation's annual report.

Among the main tasks of Foundation - to foster civic engagement in German society. The Bertelsmann Stiftung was thus structured to develop and carry out its own projects, working together with academic experts and specialists from a number of fields and collaborating with public and private institutions.

The Foundation owns ~ 70% stake of Bertelsmann AG. Projects of Foundation financed by itself.

¹ Information about the organizations obtained from open sources - sites of organizations, rating agencies and reports, Wikipedia

Focus areas : *Demographic change* (Series of conferences and colloquia to examine the impact demographic change is having on German society and the country's communal life; development of normative standards than on combining federalist structures and systems in a practical manner, depending on the area under consideration); *Modern Government* (Optimizing Political Reform Processes) Given the globe's interdependencies, nation states no longer enjoy the unbridled sovereignty they once did. Nowadays, moreover, democratic governance is less defined within traditional hierarchical structures than it is the outcome of complex negotiating processes between state and nonstate actors; *Integration* (Community Level); *Europe* (EU foreign policy, Europe and its citizens, Europe and the world); *International Politics* (Globalization; International Bertelsmann Forum; Jewish Community & German-Israeli relations); *Sustainable Governance Indicators* – SGI published in spring 2009, analyze and compare the need for reform in OECD member countries, as well as their ability to respond to current social and political challenges. The project is designed to create a comprehensive data pool on government-related activities in the world's developed, free-market democracies. In addition, it uses international comparisons to provide evidence-based input for reform-related public discourse taking place in these countries. Using qualitative and quantitative data, the SGI measure the current need for political, economic and social reform in all 30 OECD member states. At the same time, it examines to what extent the countries' governments are able to tackle pressing problems and implement effective solutions; *Middle East* (In addition, it organizes expert workshops to develop policy papers and to prepare the strategy paper presented at the foundation's annual Kronberg Talks, an event that allows findings from other Bertelsmann Stiftung programs -- addressing intercultural cooperation, migration, integration, transformation and globalization, among other issues -- to be examined within the framework of European-Mediterranean relations); *Bertelsmann Transformation Index* - BTI analyzes and evaluates the quality of democracy, a market economy and political management in 128 developing and transition countries; *International Dialog* (Trilogue Salzburg since 2007 together with the Austrian Federal Ministry for European and International Affairs; German-Spanish Forum - Initiated by the German and Spanish governments, the German-Spanish Forum was held for the first time in 2002 in conjunction with the German president's visit to Madrid); Kronberg Talks - Israel, Palestine, Lebanon, Syria, Iran, the Mediterranean and the Gulfregion after the Israeli-Hisbollah war and in view of the UN-stabilization force to arrive in South-Lebanon - an update and outlook: In the frame of the project "Europe and the Middle East" as a follow-up of the 10th Kronberg Talks of the Bertelsmann Stiftung, experts from the Middle East, Europe and the US have written policy papers this month to discuss the subject from different points of view. Additional experts are invited to offer their analysis and recommendations here).

The results of the Foundation's projects are addressed to decision makers: on local, national and international levels (EU institutions, foreign governments and international organizations).

To sum up the "actor - portrait", BTI is a private German Foundation, and same-name think-tank created by media-magnate family, building its consulting and advising powers to policy-makers, claiming the drive for liberal values.

Center for Systemic Peace / Polity IV Report, Fragility Index

The Polity IV project continues the Polity research tradition of coding the authority characteristics of states in the world system for purposes of comparative, quantitative analysis. The original Polity conceptual scheme was formulated, and the original Polity I data collected, under the direction of Ted Robert Gurr; the Polity scheme was informed by foundational, collaborative work with Harry

Eckstein, *Patterns of Authority: A Structural Basis for Political Inquiry* (New York: John Wiley & Sons, 1975). The Polity project has proven its value to researchers over the years, becoming the most widely used data resource for studying regime change and the effects of regime authority. The Polity IV Project carries data collection and analysis through 2012 and is under the direction of Dr. Monty G. Marshall and supported by the Political Instability Task Force², Societal-Systems Research Inc³, Center for Global Policy⁴ at George Mason University and Center for Systemic Peace⁵.

Polity IV project originated and developed during the Cold War. It is engaged in innovative research on the problem of political violence within the structural context of the dynamic global system, that is, global systems analysis. Он представляет собой scientific research and quantitative analysis in many issue areas related to the fundamental problems of violence in both human relations and societal development. Now the project is positioned as a product the Center for Systemic Peace (CSP), which regularly monitors and reports on general trends in societal-system performance, at the global, regional, and state levels of analysis and in the key systemic dimensions of conflict, governance, and (human and physical) development in the sincere belief that the foundation and guarantor of good governance is an active, informed public.

The research described in the Polity IV Project was sponsored by the Political Instability Task Force (PITF). The PITF (formerly known as State Failure Task Force⁶) is funded by the Central Intelligence Agency. The views expressed herein are the author's/authors' alone and do not represent the views of the US Government.

Although the intent is to release the data to the public, only some of the data on the seven aspects listed below has been authorized for release to date. The full data is only available to Political Instability (formerly, State Failure) Task Force (PITF) personnel at present.

All CSP publications are, or will be, posted in the CSP Virtual Library⁷.

CSP also provides governance, conflict, and terror data for the National Geographic Society atlases, including the Atlas of the World, Visual Atlas of the World, Family Reference Atlas, Collegiate Atlas of the World, Concise Atlas of the World, Student Atlas of the World, and Atlas of the Middle East.

² The PITF is funded by the Central Intelligence Agency. The PITF website is hosted by the Center for Global Policy at George Mason University and is provided as a public service (<http://globalpolicy.gmu.edu/political-instability-task-force-home/>). The views expressed herein are those of the Task Force and its individual members, and do not represent the views of the University or the US Government. The Polity IV data resources and Country Report series are now hosted on the Center for Systemic Peace Web site ^ <http://www.systemicpeace.org/polity/polity4.htm>. See also State Failure Task Force Report <http://www.cidcm.umd.edu/publications/papers/SFTF%20Phase%20III%20Report%20Final.pdf>

³ <http://www.s-3.com/>

⁴ <http://globalpolicy.gmu.edu/>

⁵ The Center for Systemic Peace (CSP) was founded in USA as nonprofit organization in 1997.

⁶ See State Failure Task Force Report

<http://www.cidcm.umd.edu/publications/papers/SFTF%20Phase%20III%20Report%20Final.pdf>

⁷ <http://www.systemicpeace.org/peace.htm>

To sum up the "actor- portrait", CSP is an American NGO, connected to a University-based research center, whose several projects, including Polity IY Project are commissioned to university professors by US Security Agencies

Freedom House / Nation in Transit Index

Freedom House is a U.S.-based non-governmental organization (NGO) that conducts research and advocacy on democracy, political freedom, and human rights. Freedom House was founded in October 1941, by George Field, Dorothy Thompson, Herbert Agar, Herbert Bayard Swope, Ralph Bunche, Father George B. Ford, Roscoe Drummond, Rex Stout and Wendell Willkie . Eleanor Roosevelt and Wendell Willkie served as its first honorary chairpersons. It describes itself as a "clear voice for democracy and freedom around the world".

Since 1972 (1978 in book form), Freedom House publishes an annual report, Freedom in the World, on the degree of democratic freedoms in nations and significant disputed territories around the world, by which it seeks to assess the current state of civil and political rights on a scale from 1 (most free) to 7 (least free).

Nations in Transit is the only comprehensive, comparative, and multidimensional study of reform in the former Communist states of Europe and Eurasia. Nations in Transit tracks the reform record of 29 countries and administrative areas and provides Freedom House's most in-depth data about this vast and important region. The 2013 edition covers events from January 1 through December 31, 2012. It is an updated edition of surveys published in 2012, 2011, 2010, 2009, 2008, 2007, 2006, 2005, 2004, 2003, 2002, 2001, 1999-2000, 1998, 1997, and 1995.

The country reports in Nations in Transit follow an essay format that allowed the report authors to provide a broad analysis of the progress of democratic change in their country of expertise. Freedom House provided them with guidelines for ratings and a checklist of questions covering seven categories: electoral process; civil society; independent media; national democratic governance; local democratic governance; judicial framework and independence; and corruption.

Numeric ratings accompanying the reports are based on a scale of 1 to 7, with 1 representing the highest and 7 the lowest level of democratic progress. The ratings for all categories reflect the consensus of Freedom House, the Nations in Transit advisers, and the report authors. Nations in Transit is an independent assessment with a methodology rooted in the Universal Declaration of Human Rights. It measures trans-Atlantic-agreed standards of democratic governance.

Created at the beginning of the Second World War, has intensified its activities during the Cold War.

According to its website, Freedom House "emerged from an amalgamation of two groups that had been formed, with the quiet encouragement of President Franklin D. Roosevelt, to encourage popular support for American involvement in World War II at a time when isolationist sentiments were running high in the United States

During World War II Freedom House sponsored the weekly radio program, Our Secret Weapon (1942–1943), a CBS radio series created to counter Axis shortwave radio propaganda broadcasts. Writer Rex Stout, chairman of the Writers' War Board and representative of Freedom House, would rebut the most entertaining lies of the week.[8] The idea

for the counterpropaganda series was that of Sue Taylor White of Freedom House; her husband, Paul White, the first director of CBS News, produced and directed the program

After the war, as its website states, "Freedom House took up the struggle against the other twentieth century totalitarian threat, Communism.... The organization's leadership was convinced that the spread of democracy would be the best weapon against totalitarian ideologies." Freedom House supported the Marshall Plan and the establishment of NATO.

As of 2010, grants awarded from the US government accounted for most of Freedom House's funding; the grants were not earmarked by the government but allocated through a competitive process. Freedom House is widely regarded as a reliable source. Nonetheless, some critics have accused Freedom House's reports of bias or of promoting U.S. government interests abroad.

The organization's annual Freedom in the World report, which assesses each country's degree of political freedoms and civil liberties, is frequently cited by political scientists, journalists, and policy-makers. Freedom of the Press and Freedom of the Net, which monitor censorship, intimidation and violence against journalists, and public access to information, are among its other signature reports

Published annually the survey ratings and narrative reports are used by policymakers, the media, international corporations, civic activists, and human rights defenders to monitor trends in democracy and track improvements and setbacks in freedom worldwide. The Freedom in the World and Nations in Transit data and reports are available in their entirety on the Freedom House website.

The Freedom House "actor-portrait" is, probably, most transparent - it is an ideology-based American activist NGO, commissioning country-experts to provide " scores according to guidelines". Its ideology, according to web-site , is "fighting communism ", most funding comes out of regular grants from US Government

The Economist Intelligence Unit

The Economist - English-language weekly news magazine (the edition calls itself a newspaper). British media company owned by The Economist Group

Published in the UK since 1843. In 2012, the circulation exceeded 1.6 million copies, more than half of which were sold in North America. Because of its global orientation of The Economist is not exclusively an English edition.

In 1928, half of the shares owned by the newspaper Financial Times, while the other half is in the hands of independent investors, many of whom are employees of the company and told the magazine.

The editors maintain the position of classical liberalism. The Economist Group aims to offer insight, analysis and services that are valued by its customers.

Underpinning The Economist Group's ability to fulfill this objective is a commitment to independence, integrity and delivering high quality in everything it does.

Рейтинг Index of Democracy подготавливается в The Economist Intelligence Unit, который является The Economist Group corporate structure. Chris Stibbs является managing director of EIU и finance director of The Economist Group.

The Economist Intelligence Unit also produces regular reports on "livability" and cost of living of the world's major cities, which receive wide coverage in international news sources. The Economist Intelligence Unit's Quality-of-Life Index is another noted report. Its current Managing Director is Robin Bew, formally the company's Editorial Director & Chief Economist.

In 2006 (with updates in 2008, 2010 and 2011) The Economist Intelligence Unit released The Democracy Index, an index compiled by examining the state of democracy in 167 countries, attempting to quantify this with an Index of Democracy which focused on five general categories: electoral process and pluralism, civil liberties, functioning of government, political participation and political culture.

The first edition, published in The Economist's The World in 2007, measured the state of democracy in September 2006

The index provides a snapshot of the state of democracy worldwide for 165 independent states and two territories—this covers almost the entire population of the world and the vast majority of the world's independent states (micro states are excluded). The overall Democracy index is based on five categories: electoral process and pluralism; civil liberties; the functioning of government; political participation; and political culture. Countries are placed within one of four types of regimes: full democracies; flawed democracies; hybrid regimes; and authoritarian regimes.

Free and fair elections and civil liberties are necessary conditions for democracy, but they are unlikely to be sufficient for a full and consolidated democracy if unaccompanied by transparent and at least minimally efficient government, sufficient political participation and a supportive democratic political culture. It is not easy to build a sturdy democracy. Even in long-established ones, democracy can corrode if not nurtured and protected.

Through research and analysis, The EIU offers forecasting and advisory services to its clients. It provides country, industry and management analysis worldwide. It is particularly well known for its monthly country reports, five-year country economic forecasts, country risk service reports, and industry reports. The company also specialises in tailored research for companies that require analysis for particular markets or business sectors. 2006 marked the 60th anniversary of The Economist Intelligence Unit's inception.

Chris Stibbs, managing director, the EIU, group finance director : “We plan to increase our presence in Asia in 2013 by relocating analysts from London to our offices in China, Hong Kong and Singapore”.

The Economist Intelligence Unit's Index of Democracy funded by the Economist Group directly.

Rating Index of Democracy is part of a marketing product EIU. Results of the study appear in public surveys and open to the public, are available online.

EIU research products are used in business, international organizations, media, government agencies, analysts.

To sum up, the EIU is first and foremost a part of UK-based media business, dividing their shares equally between Economist-group company and individual journalists . EIU creates a number of analytical products that are sold successfully in open market, making it sustainable.

As it was shown in this part of the paper, the four covered Democracy Ranking Agencies have profoundly different emergence motivations, historical backgrounds, legal status and funding schemes, that it is practically inevitable, that it leads to different interests, goals and target audiences.

The reasons, that they all deal with democracy evaluation and all of them have their stable range of users, clients and funders, speaks to the fact, that " democracy is selling well", it is viewed globally as a socially-attractive goal for civilized nations, as well as arriver of positive and productive social development .

But, though they all produce useful data for democracy evaluation, each of those Agencies , as individual actors or doing different things and targeting different issues, connected to it . If we switch from strict academic language to a more policy-paper and journalist one to formulate the results of simple actor-analysis, it should be based on the question of " what are they doing this for ", practically , in terms of " real-politic" it would read as follows.

"FH is " fighting communism and measuring freedom", CSP is monitoring level of political violence and measuring "country governance fragility" , predicting possible new violent conflicts or failed states, EUI is widening its media-consulting business, attracting new business clients through quality non-business analytical products, while BTI is building its own influence among global policy-makers, trying to become an influential actor through consultancy services .

Does this mean, that the information and data on Democracy evaluation, that various agencies provide is not useful or not trustworthy ? By no means. There is a huge amount of work and resources that were invested in research design and data collection, regardless of which ever motives were behind the goals of this activity, so it is the task of democracy analysts to gain most use of this data, that was collected, aggregated and presented to us by Democracy Ranking Agencies. The task is - to make a new knowledge out of it, the challenge is - to know who they are as self-interested actors and be able to understand their research logic and indicators meaning and not to be driven by their logic, but by your own.

4. Formal Concept Analysis as a tool of " comparing the comparators". An insight into the "logic of knowledge" produced by Democracy Ranking Agencies.

After we had disclosed all the complexities, that the democracy researches are facing when they need to deal with huge data bases, proving non-aggregately measurements of non-compatible parameters , produced by various Democracy Ranking Agencies, we need to suggest one of the possible tools to deal with those challenges, that we had introduces in Prt2 of this paper - Formal Concept Analysis framework. Here we want to apply the FCA format in a manner it was not used before: not to compare countries or democracy indicators, but to compare the comparators, i.e. Democracy Ranking Agencies themselves. As we had learned from the previous part, they significantly differ by their social and legal status, now we want to see, if this has implications on the indicators they use and which of them are most close or apart from each other, been compared upon the meaning of their key democracy indicators.

For this goal we created a table of the key democracy indicators, used by the four Agencies we had already explored - EUI Democracy Index, BTI Status Index, Freedom House Nations in Transit Index and CSP Polity IV Report.

Tab. 6

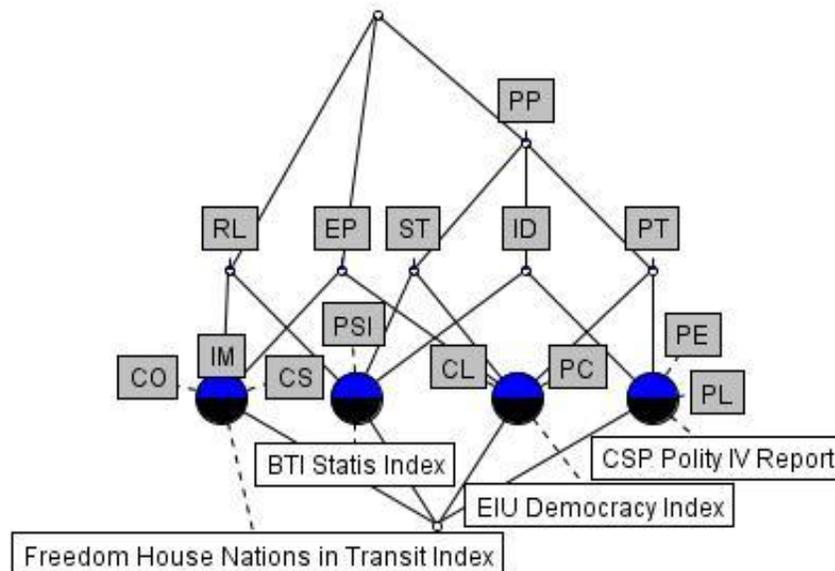
| EIU Democracy Index | BTI Status Index | Freedom House Nations in Transit Index | CSP Polity IV Report | Notes on reductions |
|---------------------------------|---|---|---|--|
| Electoral process and pluralism | | Electoral Process | Regulation of Participation (Pluralism) | Regulation of Participation reduced to "Pluralism" |
| Political participation | Political Participation | | The Competitiveness of Participation | |
| Functioning of government | Statenes | | | |
| | Stability of Democratic Institute (Institutionalized Democracy) | | Institutionalized Democracy | "Stability of Democratic Institute" reduced to "Institutionalized Democracy" |
| | Rule of Law | Judicial Framework and Independence (Rule of Law) | | Judicial Framework and Independence reduced to "Rule of Law" |
| Civil liberties | | Civil Society | | |
| | Political and Social Integration | | | |
| | | Corruption | | |
| Political culture | | Independent Media | | |

As we see on this table, most of parameters are different, but in some cases, the words and terms are different, but the meaning of the phenomena that is been assessed, is very close, like in cases of "institutionalized democracy" used by CSP and "sustainability of democratic institute" used by BTI. In three of such cases we made a substitution of a "longer term" by same-meaning shorter term, thus, reducing the difference of used parameters. The results of this new range of parameters we had put in a FCA- preparation table where the names of Democracy Ranking Agencies are "objects" of comparison and the parameters they use for democracy evaluation are used as "attributes", where sign "X" is used to show which objects obtain which attributes. On the base of this table we build a concept lattice, showing, which concepts are common for which Agencies and which are unique for each of them.

Tab. 7

| Main parameters used | | Electoral Process | Statenes | Political Pluralism | Political Culture | Civil Liberties | Rull of Law | Institutional Democracy | Political & Social Integration | Civil Society | Independent Media | Corruption | Political Effectiveness | Political Legitimacy | Participation |
|--------------------------------------|--|-------------------|----------|---------------------|-------------------|-----------------|-------------|-------------------------|--------------------------------|---------------|-------------------|------------|-------------------------|----------------------|---------------|
| | | EP | ST | PP | PC | CL | RL | ID | PSI | CS | IM | CO | PE | PL | PT |
| Agencies providind Democracy Ratings | EIU Democracy Index | X | X | X | X | X | | | | | | | | | X |
| | BTI Statis Index | | X | X | | | X | X | X | | | | | | |
| | Freedom House Nations in Transit Index | X | | | | | X | | | X | X | X | | | |
| | CSP Polity IV Report | | | X | | | | X | | | | | X | X | X |

Fig.10



What we see from this lattice, which is quite simple, due to small number of object and attributes, it has three concept levels and is both balanced and diverse. If we analyze it from the top, we see, that the summit of the pyramid is empty, as there is no concept, that is uniting for all the Agencies, and the top super-concept that is uniting three of the four Agencies, is Political Pluralism.

On the second level of the lattice there are few concepts, that are uniting those four Agencies, as most of the concepts, that they are using, are unique. There are only four parameters, that are commonly used by two Agencies, that are uniting them - Rule of Law, Electoral Process,

Statenes, Institutional Democracy and Participation. What is important to notice, is that "uniting parameters" are different to different Agencies : while "Rule of Law" is uniting Freedom House and BTI, "Political Participation" is common for EUI Democracy Index and CSP Polity IY Report, while " Political Pluralism" is a common concept for BTI, EIU and CSP, and only Freedom House is not using it.

Lattices allow more interpretations, but our major goal here was to show, that serious differences between Agencies are not only a hypothesis, but it does have implications on the parameters they use to conceptualize and measure democracy, so, while using there databases, the researchers should be very clear, which parameters of democracy evaluation they really want to study and who among the Democracy Ranking Agencies is producing the better account for this.

With this we want to conclude, that Formal Concept Analysis does provide a useful tool for democracy evaluation studies, helping to discover new knowledge by visualization of various connections between the different bytes of data with extractable " concept-meaning", and allowing a deeper look at the Democracy Ranking Agencies.

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