

*Review***Institutional uncertainty in transitional and developing economies<sup>†</sup>****Kolomiets Andrey\***

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**Abstract:** The institutions improvement is one of principal conditions for the transitional and developing economies growth. This study on the bases of multidisciplinary approach investigates the necessity of using the concept “institutional uncertainty” in economic and social researching, proves that the institutional uncertainty exists as a result of imperfect knowledge of economic agents rooting in economic agents’ mentality. The institutional uncertainty is an obligatory attribute of institutional environment, because institutions have capability to generate not only “certainty”, but also “uncertainty”, and “risks” for economic agents. The institutional uncertainty as Knightian uncertainty reflect the unpredictability of changes of institutional environment and basic institutions (ethic, ethnic, cultural, ideology, political, business and so on), and the unpredictability of it influences on economic agents’ behavior. In this connection it needs to specify the institutional uncertainty from political risks and political uncertainty. Leading reasons of the institutional uncertainty are presented on the micro-level at performance of different types of incomplete contracts widespread in market and in pre-market economies. On the macro-level the concept of institutional uncertainty is reflecting not only unpredictability of institutional changes, but also uniqueness of combinations of driving forces of transition to new frames of economy and society. Some directions of using this concept at investigation of historic institutional changes and institutional changes in modern transitional and developing economies are considered in the last parts of the study.

**Keywords:** institutions; uncertainty; risk; transitional and developing economies; rule of law; virtue; Industrial Revolution

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<sup>†</sup> «We are just beginning systematically to explore the process of economic change» North, Douglass C. (1993).

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## 1. Introduction

The institutions improvement is one of principal conditions for the transitional and developing economies growth. “The necessity to restructure institutions—both economic and political—has been a major obstacle to development of the transitional and developing economies” (North, 2005). The solution of institutional problems first of all has to rely on the processes of institutions changes and the understanding of forces influencing on these changes.

The decision-making by economic agents is derived from the interplay of the motives, preferences, and beliefs. The stimuli, norms, and rules constrain of agents’ behavior and must be included into the object of the consideration also. Hence the thesis of the “rational choice” methodology basis must be corrected primarily because “it is patently false in making choices under conditions of uncertainty—the conditions that have characterized the political and economic choices that shaped (and continue to shape) historical change” (North, 1993).

Various forces and causes influence on institutions changes and generate various types of uncertainty: for example, the uncertainty connecting with global prospects of economic growth or the climate changes; macroeconomic uncertainty; political uncertainty; the uncertainty connecting with military conflicts, with taxes; the uncertainty of the trade policies, etc. At recent years the attempts of quantitative assessment or of parametrical measurement of uncertainty surrounding macroeconomic and financial outcomes relating mainly to short-term markets fluctuations were presented (Jurado et al., 2013; Scotti, 2013; Ohnsorge et al., 2016; Datta et al., 2017). Also attempts to investigate influence of institutions on macroeconomic dynamics and volatility of the financial markets, and institutions to the innovations were made (Wang, 2013; Boudreaux, 2017; Lee and Law, 2017; Hartwell, 2018). There are a large number of researches in which various aspects of interrelations of social and economic institutions, knowledge, behavior, and the culture of economic agents, economic growth and social changes are considered. Review of these researches is submitted by Alesina and Giuliano (Alesina and Giuliano, 2015). And beautiful historical investigations are devoted to many different aspects of institutional evolution. Little part of them sites below are cited for the addition a picture of this study.

A subject of this article is only one aspect of complex system of institutional problems. The concept that is considered in this study “institutional uncertainty” was used in fundamental research of institutional uncertainty and investment by Brunetti and Weder (Brunetti and Weder, 1998). As indicators of “institutional uncertainty” were accepted—the rule of law, corruption, volatility in real exchange rate, and others. In modern investigations these indicators consider at the researching of different types of uncertainty; perhaps for this reason the term “institutional uncertainty” is using seldom and as the general sign of institutions that somewhere (in country or region) are located. The author used the concept “institutional uncertainty” in 2014, having assumed that institutional uncertainty is one of the reasons of long-term inflation trends in Russian economy (Kolomiets, 2014).

An accurate research demands to define first of all its object and to delimit its domain. Mix of concepts in this case very relevant threat, especially in the attitude towards political risks and influence of institutions on economic growth, volatility and an innovation. The error of “missing the point” leads to the fact that not institutions, but political events become objects of a research and sources of uncertainty; the quality of formal and informal institutes which can be successfully measured is identified with institutional uncertainty which possibilities of measurement as it will be considered below, are limited.

The author supposes that uncertainty related with the institutions needs more deep investigation especially in transitional and developing economies because risk and uncertainty in these economies are much higher than in developed economies, as researches testify. Developing countries and poor households in them are most dependent on risks and unpredictable changes—ecological, institutional, economic, and similar (World Bank, 2014). The using of common resources is one of causes of high uncertainty in these economies (Ostrom, 1990). High uncertainty and the information asymmetry may lead to opportunism and malfeasance widespread in many transitional and developing economies (Nee and Svedberg, 2008). Risk is part of life in developing countries, “householders use a variety of strategies to manage and cope with risk” (Dercon, 2008).

For studying this complex problem it’s necessary to use different clusters of analytical tools and integrate various disciplinary approaches. Expediency of such methodology of carrying out institutional researches is proved in a number of works (North, 1990, 1993; Hodgson, 1998; Crawford and Ostrom, 2005; Greif, 2006; Greif and Mokyr, 2017). Such methodology allows investigating institutional uncertainty as an element of a historical context of concrete events and facts. The ignoring the role of history, geography, ecology, and culture might lead to incorrect performances of the institutional changes and growth process in whole (Michalopoulos and Papaioannou, 2017). The hypothesis of decisive influence of the economic agents’ ideas and mentality on institutional changes and economic growth in focus of McCloskey researches (McCloskey, 2010, 2011, 2013).

The general conception of interdisciplinary approach dominated on the structure of this paper, which carries out following tasks:

- to explain the necessity of definition of the institutional uncertainty, to chart a contribution of leading researchers to investigation of the institutional uncertainty, to define the institutional uncertainty (Section 2);

- to consider the role of economic agents’ mentality at processes of institutions transformation and why these processes are always accompanied by uncertainty (Section 3);

- to chart directions of using concept the institutional uncertainty at investigation of historic institutional changes and institutional changes in transitional and developing economies (Section 4 and Section 5).

## **2. Uncertainty is the obligatory attribute of institutions**

Nobody oppose the conclusion that modern societies are risk societies where dealing with risk is a normal experience of everyday life (Beck, 1992, 2009; Zinn, 2019). But more exactly to define modern societies, both advanced and developing as societies of risk and uncertainty.

This study relies on the understanding of “risk and uncertainty”, according to which “uncertainty” applies when probabilities cannot be assigned and expected utilities cannot be applied. Risk (known probabilities) is a sub-case of uncertainty—unknown probabilities (Wakker, 2008). In practice, the term “uncertainty” designates some mix of risk and uncertainty. Therefore often uncertainty assessment in fact is more perfect method of risk assessment, and *vice versa*: risk assessment ones try to use for unknown probabilities. “The lack of prior events and therefore the impossibility of probabilistic approaches renders perceived uncertainty especially high, yet often these potential events are acted upon in a manner which overlooks uncertainty and by which “the possible” becomes established as the “real” within “risk’ governance” (Brown and Olofsson, 2014). This error is one more case of “missing the point”—the danger that must be eliminated at the study.

As F. Knight, the author assumes that uncertainty can not by any method be reduced to an objective, quantitatively determinate probability, and is a higher form of uncertainty not susceptible to measurement; it’s Knightian “true uncertainty” (Knight, 1921). The pioneer study of interplay of uncertainty and one of the famous social institutions—medical care—belongs to K. Arrow (Arrow, 1963). In this case mathematics was not used in difference from his other studies; it confirms the complexity of the problem’s quantitative interpretation. At paper “Exposition of the Theory of Choice under Uncertainty” (Arrow, 1966) he noted that such choice suppose (1) subjective feelings of imperfect knowledge when certain types of choices, typically involving commitments over time, are made; (2) the existence of certain observed phenomena, of which insurance is the most conspicuous example, which cannot be explained on the assumption that individuals act with subjective certainty. Such choice is subjective; in choice among actions, both the values and the beliefs are subjective, in the sense that only the values and the beliefs of the economic agent are relevant to explaining his choice. Hence uncertainty of an event includes a subjective in assessment of a possibility of an event and exists because knowledge always is incomplete, As F. Hayek noted, all the circumstances which will determine the outcome of a process, will hardly ever be fully known or measurable (Hayek, 1974).

The knowledge incompleteness stronger or weaker, has a greater or smaller influence on assessment by the economic agents (are connecting observation and decision-making) of a possibility of events. If uncertainty in general and uncertainty related with institutions in particular includes a subjectivity element, different observers and actors can have various assessment of uncertainty depending on information volume that they possess and also from their abilities to interpret and use this information at decision-making. Hence, estimations of institutions quality can be various depending on the appraiser’s position. These differences must not ignore at investigation of advanced, transitional and developing economies.

The impossibility of enumerating all possible contingencies of transactions connect with uncertainty directly, the intrusion of behavioral uncertainty, which is associated with unique events bring special difficulties to transactions and to application of uncertainty measurement methods for measuring the degree of uncertainty, O. Williamson noted. He investigated uncertainty as the third dimension for describing transactions (two others—asset specificity and frequency) and also the ways of the increasing the transactional costs generated by uncertainty: uncertainty stimulates opportunistic behavior; “long-term contracts executed under consideration of uncertainty complete presentation are apt to be prohibitively costly if not impossible”; uncertainty stimulates monopolistic trends and the

related processes of restriction of the competition (Williamson, 1985). Uncertainty increases at the conclusion and performance of incomplete contracts (Hart and Halonen-Akatwijuka, 2015).

Summarizing: institutions influence on decisions, the choice, and actions of economic agents is varying, but the context of behavior of economic agents is never predetermined, the degree in which institutions are capable to influence on a context of economic agents' behavior and transactions costs cannot be found a priori. Therefore, the institutional uncertainty—the concept reflecting interaction unpredictability of economic agents and various institutions (cultural, ideology, ethic, ethnic, political, business and so on); the agents can't estimate such interplays' results as risks sources only and hence estimates it as uncertainty sources (as Knightian “true uncertainty”). The term “institutional environment” unites all types of institutions. In this paper this term is used as the most accurate and corresponding to reality. The conclusion will be reasonable that uncertainty is the obligatory attribute of institutional environment in general and every kind of institutions; this uncertainty reflect imperfection of knowledge about current and future institutional environment condition and its influence on economic agents' behavior. It should be noted also that some parts of institutional environment may be is not only immeasurable but observable poorly especially by “external” observers and actors. At the same time the influence of these institutions on transactions costs and results may be high.

The main social function of the institutions coined by D. North—to reduce uncertainty by establishing strong structures for a human exchange (North, 1990). On the other side as showed above, institutions are the source of risk and uncertainty at decisions of economic agents. Hence it needs to support the claim that any institutions and institutional environment have double attribute and the double influence capable to generate “certainty” and also “uncertainty” and “risks” for economic agents. This double attribute is a property of every type of institutions—formal (laws, norms) and informal (rules, attitudes, behavior patterns).

Thus the institutional uncertainty placed beyond the risk scale should be considered investigating at least the following points:

- Ambiguity and inaccuracy of economic agents' knowledge about an institutional environment, mode of being and behavior of other economic agents; the reasons and degrees of institutional uncertainty typical for different cultures and generated by different mentality of economic agents, and also by interplay of these differences;
- Mutual discrepancies of economic agents' behavior, laws, formal norms, informal rules, reinforcement, markets principles, expectations of other economic agents; discrepancy of institutions' functions and their social tasks recognized or declared;
- Weak predictability of economic agents' behavior concerning laws, rules, norms, behavior patterns, and reinforcement; weak predictability of institutional changes;
- Uncertainty generated by past and modern institutional changes and every kind of institutions, owing to its historical, cultural, social, economic, political, ethical, psychological, behavioral, and other social features.

This research program is an initial points of studying partly presented below and focused: (i) on the basic patterns of economic agents' mental performances in different cultures, countries, in different history circumstances and their interplay with the institutional uncertainty on micro- and macro-levels; (ii) on the influence of the institutional uncertainty on changes of the valuing of

institutions' quality in modern transitional and developing economies. Next Section is considering the condition and changes of the institutional environment in which contracts (primarily incomplete contracts) are concluding, are executing, are supplementing, and are renewing or are prolonging. These changes must be considered and investigated in a concrete historical context; the general reasoning—about the nature of institutions, speed of institutional change, reaction within the system, about external constraints and so on - not will be the substantial in this case.

### 3. Mental patterns and the institutional uncertainty

What causes initiate processes of institutions transformation, what role of economic agents' mentality, and why these processes are always accompanied by uncertainty?

A. Greif and J. Mokyr put forward a concept of “cognitive rules”, as social constructs that convey information that distills and summarizes society's beliefs and experience and these rules “do not have to be correct” (Greif and Mokyr, 2017). At this study the term “mental patterns” is used as the term designating the specific type of “cognitive rules”; when these rules are some kind of “glasses” thanks to which economic agents distinguish “correct”, “wrong”, or “acceptable” behavior, comparing ones behavior with an “appropriate”, “due”, “ideal” image of behavior that was created in their mind.

The reasons of institutional uncertainty are connected directly with cognitive rules, mental patterns and beliefs. Mental patterns also as cognitive rules and beliefs are forming on the bases of shared values typical for different cultures. The steady mental patterns (and frames) formed by culture and by history are always behind a facade of traditions, beliefs, custom, and opinions. If researcher are basing on Arrow conclusion that choice is subjective always, in the sense that only the values and the beliefs of the economic agent are relevant to explaining his choice (Arrow, 1966), he ought to make next step and to acknowledge the steady mental patterns and frames typical for economic agents in different cultures, countries, and regions as one of the main reasons defining the character of institutional environment and hence the institutional uncertainty in these these cultures and countries.

Therefore, at this investigation the ignoring the burden of art and literature and philosophy where mental patterns strongly presented is impossible. Next point (3.1) may be considered as the respond for D. McCloskey's claim about “the exploration of human meaning from the Greeks and Confucians...” (McCloskey, 2011).

#### 3.1. “Law” and “virtue”: Plato's and Confucius's ideas

The universal mental pattern that is dominating at society sciences till now and in particular at modern economic theory was presented at Plato's and Aristotle's ideas at IV century B. C. (though Plato and Aristotle were not the first Greeks who coined these ideas). According to these ideas the main instrument of creation of the best State are laws which cultivate virtues (Plato Laws. Book XII, Aristotle. Politics. Book VII, Book VIII). It is easy to notice Plato's and Aristotle's modified ideas in conception of “rule of law” at a modern society and also in conception of a decisive role of laws at creation of market institutions.

The law is an axis of formation of the market economy institutional environment: it's one of the fundamentals of the New Institutional Theory. «Long run economic growth entails the development of the rule of law» (North, 1993). General basis of conclusions drawn by North is an experience of advanced economies. These conclusions are confirmed by historic analysis of development of institutions in Western World (North and Thomas, 1973). But at the same time it's obvious that the law is not the single force that one must take into account at the institutional environment transformations researching. So, the rise of market institutions at Middle Ages in Mediterranean area and, in particular, market institutions that permit long-distance trade was based on mutual trust of principal and agents into merchants communities, A. Greif showed (Greif, 2006).

The alternative mental pattern than considered above, in absolutely form was presented by the conception that was put forward by Confucius at 5th century BC: “1. The Master said, if the people be led by laws, and uniformity sought to be given them by punishments, they will try to avoid the punishment, but have no sense of shame. 2. If they be led by virtue, and uniformity sought to be given them by the rules of propriety, they will have the sense of shame, and moreover will become good” (Confucian Analects. Lun Yu. Book II. Chapter III, 1–2). “Benevolence and righteousness; and these are my only topics”, Mengius learned (The sayings of Mengius, Book I, Part I). Confucian conception is basing on the understanding the law as external oppression for the worthy man's behavior and on the understanding of virtues and “rules of propriety” as internal stimuli for his righteousness and noble actions.

At both conceptions (Confucius and Plato) opposition of “law” and “virtue” was considered as source of states imperfection (in other words—as source of uncertainty of social institutions). The conceptions of Confucius and Plato were different essentially and reflected the vital realities of Ancient Greece and Ancient China. But as abstract ideas the conceptions of Confucius and Plato have the universal character. These conceptions represent the main mental patterns that till now influence on people's behavior and on economic actions in particular. Oppositions and controversies of “law” and “virtue”, ethic and legislation are widespread.

In these oppositions the law and formal rules are considered often in implicit way as the sphere of certainty and of stability for a human exchange; on the contrary—virtues and other informal institutions are considered in implicit way as the sphere of uncertainty, personalization and destruction of stable structures for a human exchange, and also negative externalities, multiplication of transaction costs. This statement appears too rectilinear and has a little correspondence with history (see below). In fact the formalized norms and laws, informal rules, reinforcement include the risk elements and uncertainty. Identification of virtues and informal rules simplifies a problem and does not correspond to reality. Formal and informal institutions are an external environment of economic agents' mentality and assume reinforcement including moral pressure and oppression. Beliefs, cognitive rules, and mental patterns are parts of economic agents' internal motives which do not demand reinforcement. Besides, it is necessary to consider that for the internal and external observer the relative value of “law” and “virtue” as sources of certainty and uncertainty is various in different cultures and economies.

### 3.2. *The institutional uncertainty and incomplete contracts on micro-level*

Institutional risks and institutional uncertainty are presented at all levels of the institutional environment: first of all, on micro-level—at firms, organizations, communities and commons, individuals—at concluding and performing contracts, especially incomplete contracts; second, on macro-level—at corporations, public and state structures, economies as a whole. These levels are inseparably linked and evolve in dependence from each other.

Three types of incomplete contracts are presented below. The choice of these contracts is predetermined by research problems: the first contract is typical for market economies, two others (Lender and Borrower, Tenant and Owner)—widespread in pre-market economies. In these contracts' and transactions' equations there is one more variable: institutional uncertainty. In advanced economies this variable is minimized as a rule at all types of contracts—of Lender and Borrower, Tenant and Owner, Buyer and Seller etc. In pre-market economies this variable can be considerable (even if contracts are identical in a legal form). This difference between market economies and pre-market economies originates by differences of institutional environment, and also by differences of transactions participants' cognitive rules and beliefs.

“A”. The contract of Buyer and Seller in developed market economy. This contract no contains implicit conditions. Both parties are ruled by legislation and profitability motives. Both parties estimate such behavior as rightness. The degree of institutional risks and uncertainty is minimized in this case. If any unpredictable events occur for example as a result of different interpretation of law norms, parties can improve the situation by committing as part of the contract to apply a number of guiding principles such as loyalty or equity in case of unexpected events, and to build in communication processes that will enable the application of these principles (Frydinger and Hart, 2019). These guiding principles predominate in cognitive rules of both parties thanks to the power of the “rule of law” in both mental patterns.

“B”. The contract of Borrower and Lender in economy where market dominates partly (pre-market economy). This contact contains the implicit condition (but the agreement not is mentioning it) about the transfer of Borrower's property in case of Borrower's insolvency in favor of Lender. Such contracts are widespread from ancient days and in transitional and developing economies nowadays. At many cases the parties are oriented on different formal and informal rules, on different behavior estimations as acceptable or unacceptable; the Lenders' motive is profitability, the guiding principles of Lender is dominated by the “rule of law”; the Borrowers' motive is consumption, the guiding principle of mental pattern of Borrower is powered by virtues—ethic, religious and so on. Therefore Borrower considers the transfer of Borrower's property to Lender as injustice. The court may interpret contract and the law in favor of both sides at any stage of contract performance. The degree of institutional uncertainty is high.

“C”. The contract of Land-owner and Tenant in economy, where market dominates partly or not dominates at all. This contract contains the implicit condition about the using by the Tenant of land; the accessory of land to commons or the Owner is no evident (it's not fixed in the law or in the contract). Such contracts exist in transitional and developing economies where commons live now and existed centuries earlier. This contract contains not only the implicit condition but the implicit Party—commons. The parties have different motives; they are oriented on different “mixes” of



formal and informal rules and on different behavior models on the bases of different virtues. These virtues estimate behavior models as acceptable or unacceptable. Every Party may have virtues differing from other Parties. The degree of institutional uncertainty is high.

In the most cases these contracts are free from political risks and political uncertainty, but not free from institutional risks and institutional uncertainty especially in cases “B” and “C”. Questions for check: political uncertainty of victory of Tramp or Clinton originated risk and uncertainty for contract A; political uncertainty of victory of York or Lancaster originated uncertainty for contract B or for contract C at the most cases?

Evolution of cognitive rules (include mental patterns such as “rule of law” and “virtue”) and beliefs change conditions of performance of contracts which in turn give an impact to changes at the macro-level of economy and only after thereof, but it is not obligatory, to political changes. The transition to the modern economy required more than formal legal reforms: it required changing the cognitive rules of society and embedding these changes in the legal code (Greif and Mokyr, 2017). Political uncertainty can “play” to destructive direction or to constructive one.

#### **4. The interplay of “rule of law” and “virtue and rightness” as mental patterns and the institutional uncertainty at transition to Industrial Revolution at 18th century in England**

The technological breakthrough of the western civilization at XVIII-XX centuries and its social consequences gave the grounds to treat “virtue” and “rules of propriety” with mistrust. First, “virtues and benevolences” as behavior-ruling mental patterns in western civilization were associated closely with the communal principles destroyed by a private property and the tragedy of commons. The second, “virtues and rules of propriety” were valued as social mechanisms setting and supporting “backwardness” in the colonized countries. The third, “rule of law”, owing to experience of advanced economies was considering as perfect principle that promotes impersonal exchange (North, 1990) and is adequate to “the right to exclude”, that distinguish a private property. In these economies “law is a key institution for overcoming contracting uncertainties” (Deakin et al., 2015), it is supposed that under the rule of law, conditions and results of transactions do not demand certain “public recognition” according to indistinctly established rules based on “virtue, benevolence, rules of propriety” and are not related closely with “kin-based social structures”. Thus, “the rule of law territory” is considered as “domain of certainty”; hence the more of law there is more certainty, the less of law and more virtues and custom there is more uncertainty.

But of the mental patterns “law” and “virtue and rightness” interplay more complex at historical reality and can be not always estimated unambiguously. At reality no-legitimate “game rules” dominate in the sphere of human exchange often. The “law” and “virtue” intervene in this sphere and “game rules” change under this oppression from both sides. Sometimes at decisive moments of social and economic development the moral principles and virtues have a crucial significance and impact legislation to more certainty of it. England at the initial period of transition to industrial society presented some proofs to this assumption.

Among the modern researchers there is no consent concerning a role of the rule of law and the protected property rights in creation of Industrial Revolution conditions. A number of researchers explain formation of Industrial Revolution prerequisites mainly as a result of the property rights

protection strengthening (first of all land rights as the capital asset) owing to Glorious Revolution of 1688 (North and Weingast, 1989). Other researchers point to the fact that no significant changes of the property rights during this period happened: English lords acquired the property rights to the earth several centuries prior to 1688 (Pincus and Robinson, 2014; Hodgson, 2017). Acemoglu and Robinson prove key role in creation of Industrial Revolution conditions that was played by transition from extractive institutions to inclusive institutions (Acemoglu and Robinson, 2016). McCloskey focused on the role of elite groups' cultural attributes (McCloskey, 2010).

The author suppose, a question not in that, when and what rights were claimed and established, but in purposes for that these rights were used during various periods of time. In brief, the common law of communities was not infringed strongly by English landowners a long time on the lands belonging to them. Besides, the government opposed such attempts often. Therefore common law of communities and lords property rights co-existed a long time. Only the development of trade, monetary economy, series cultural and religious transformations impacted the involving of the land into commercial and financial transactions in big scales. It demanded an exception of any other users of the land (members of communities, tenants) from participation in the establishing of land's order and the definition of lands' use purposes. Then, financing and implementation of large-scale projects (melioration, construction of canals, mines, industrial enterprises, and railroads) became possible.

Besides a unique combination of social, geopolitical, trade, scientific and technological prerequisites, the crucial role among institutional conditions of the transition to Industrial Revolution was played by beliefs, the ideas, and behavioral stereotypes of the educated and governing classes. Individualistic and subjective trends owing to features of the English intellectual and ethical tradition found exclusively favorable circumstances for rooting in mentality of educated class, in the governing, and the business culture. It is not accidental that at this time a considerable part of the English philosophers was focused on problems of "virtue" (Perinetti, 2013). However gentlemen were not guided by the abstract ideas. Virtues of the typical representative of the governing and educated classes of England in the middle of the 18th century included Protestantism, mainly in Methodism versions, the devotion to interests of English trade, imperial interests, the Crown and stability of a public debt of Britain. It was the set of appropriated common patterns of thinking and standards of behavior. Rationality actions were supplemented and supported by personal moral responsibility that was reinforced by business partners. Gentlemen were performing these duties and virtues as their exclusive advantages and properties and often were emptying himself of anything else. Virtues of the educated and governing classes must were be accepted by all English economic actors. It was the process of mutual adaptation of both virtues—bourgeois and nobility. For example, the obligation to repay debts was not among the gentleman's virtues at the 15th century, genuine gentlemen at the 18th century were accurate and precious at these payments.

This set of virtues was formed as a result of a long period history when times of cruel civil wars and social instability in England was changing by short times of calm (Kolomiets, 2018), and as the response to challenges that external and internal threats at the beginning of the XVIII century before Britain was (Toynbee, 1934; Parthasarathi, 2011). The doctrine of "the calling" was generated by not only religious reasons, as M. Weber assumed (Weber, (1920 [1958])), but in English version by many other causes also. Virtues can be related variously to requirements of market economy: oppositional, neutral, and "pro-market". Pro-market virtues were one of the most important prerequisites of

transition to Industrial Revolution in England; religious motives had a significant role in formation of these pro-market virtues, but not a decisive.

The story of South Bubble (1711–1720 and later) was a decisive moment, where a law was opened before different possibilities for interpretation. This story “involved thousands in ruin” (Ashton, 1919), and was not “the victory of benevolence”: the punishment was a partial. But the lesson was taken: the fraud that often was present at transactions was subjected to punishment, and plagues were limited. In this story on the basis of above virtues of the educated and governing classes the law was interpreted by such a way that England public debt was saved and London financial market also, and the beginning of Industrial Revolution had a necessary support from financial infrastructure and state debt (Smollett, et al., 1860; Dickson, 1967). Potential investors could mark that the stock market is a field not only for mad gambles and fools but for rational players. It was not single crucial point, but one of the most significant historical alternatives on the way to Industrial Revolution: the moments when the choice of various decisions could either accelerate or slow development, or to become the reason of destructive processes. Thus financial innovations and guarantees of a national debt created a financial basis of formation of the environment complimentary for investment. Each link of this sheaf included an uncertainty element. Mere coincidence of these elements of uncertainty in time and the place could make all set of institutional and intellectual prerequisites of Industrial Revolution disabled as it happened earlier at 15th century in Italy. Risks of such outcome could not be estimated *ex ante* as similar events in the previous period were absent. Therefore, Knaytian uncertainty in pure sense took place. Though all the history was closely connected with political struggle, its bases and results were far beyond the scope of policy. As a result, to the middle of the 18th century in England the institutional environment of economic and financial activity which essentially differed from the institutional environment at the end of the 17th century was created.

This historic fragment shows that the rule of law and virtues exist in indissoluble unity, the institutional uncertainty is the obligatory attribute of these both sides of institutional environment, and results of human exchange and transactions cannot be clear, precisely, and are completely predicted perspective of economic agents’ preferences: whether they are guided mainly by virtues or by the law. The conclusion which can be made based on the presented facts consist that existence of those or other laws or virtues matters a little. The main matters: by whom when for what purposes, and with what results particular laws and particular virtues were be demanded and be used. Answers to these matters depend in many respects on mental patterns (“law” or “virtue”) that dominate in economic agents’ minds.

England is a best example that the law norms may stay unchangeable for many years, but interpretation of the law norms may change and be initiated by the impact of the changing of beliefs, cognitive rules, mental patterns, and motives of economic agents. The victory of Industrial Revolution was a result of unique interplay of mainly unique causes. Cases of transition to new frame of economy and society nowadays repeated this pattern in the sense that combination of causes was unique; the institutional uncertainty was one of transitional conditions; at initial stages of such transitions the institutional uncertainty had maximum degree.

## 5. Institutions quality valuation and the institutional uncertainty in transitional and developing economies

The valuation of institutions quality is one of the famous points of institutional researches. The fullest system of an estimation of institutions quality is Worldwide Governance Indicator (WGI). WGI mainly characterizes national administrative and government agencies which determine the environment for economic activities and the ability of these agencies to deliver a level playing field for all economic actors (Kaufmann et al., 2010; Masuch et al., 2016). It means that WGI and other comparative assessments of institutions quality are focusing on legislation quality and application of formal norms primarily. Many institutions (especially informal) stay outside this analysis. Within WGI is not carried out system assessment of beliefs, custom, and informal rules. But even such partial representation of institutions quality confirms need to take into account institutional uncertainty at assessment of prospects of evolution of institutions in various countries.

This study is following classification of institutions “as being legal, political, economic, and social institutions” (Joskow, 2008) and focused on the “economic” institutions. There are three groups of indicators of WGI that are most representative for the institutions directly influencing economic development: qualities of these institutions are estimated as “Government Effectiveness” (GE), “Regulatory Quality” (RQ), and “Rule of Law” (RL). These estimations are reflecting the securing of the properly working market, the legal system enforcement of property rights, the quality of the civil service, the quality of policy formulation and implementation, the ability of the government to permit and promote private sector development etc. (Kaufmann et al., 2010).

Appendix (Table 1) contains estimations of “economic” institutions quality in some advanced economies, emerging economies, new industrial economies, and BRICS economies during the period from 2002 to 2017; criterion of economies ranging—the average estimations of “government effectiveness” at 2015–2017. These estimations show that even in advanced economies the conditions of institutional environment could be changed considerably in the medium-term. It confirms that it is difficult to make the dynamics of institutions quality highly predictable: accumulation of positive changes of the institutional environment can be replaced by degradation of the institutions quality at middle-term perspective. From 17 economies presented, in 7 economies the occurred estimations changes of GE, RQ, and RL were contradictory. Even in EU where the legislation is highly unified, the quality of various components of the institutional environment evolves in various directions in various countries. More complicated picture is in transitional and developing economies. Leadership in improvement of “economic” components of the institutional environment at the period under consideration belongs to China: growth of GE, RQ, and RL was respectively +10.7; +5.1; +6.1 items. At the same time, China still has very average estimations of institutions quality, below Malaysia and South Africa. Leadership in decrease of GE and RQ belongs to Brazil (−14.2 items; −1.7 items) and South Africa (−9.0; −10.0 items). However, estimations of RL in Brazil grew (+3.9 items), and in South Africa were decreased slightly (−1.2 items). Estimations of quality of Russian “economic” institutions are not less contradictory: leadership in decrease of RQ (−13.7 items), and increase of GE (+4.7 items) and RL (+2.7 items).

To explain such opposite changes of estimations of the institutional environment components and calculate risks of such changes are not a simple tasks. Obviously, only that the last changes of

institutions quality give few opportunities even for assessment of next changes of institutions quality, especially in some transitional and developing economies where an influence of informal rules and beliefs high and sometimes contradicts the legislation market-oriented under global standards. These circumstances are important source of uncertainty in economies where “rules of propriety” play more significant role than legislation and where these rules may be modified and added by “mix” of ideas of nationalism, socialism, tribalism and others. At these cases the degree of institutional uncertainty is high as a rule.

WGI can be complemented with more perfect system of estimations of informal institutions. The options of such system of estimations are presented by some research (Williamson, 2009; Voigt, 2013). But our assumption consists that even in this case WGI will not be able to provide high predictability of institutional changes. This inability is not the result of measurements imperfections of institutions quality. This inability is a consequence of the fact that the perspectives of institutional change submit Knaytian uncertainty. It’s impossible to estimate Knaytian uncertainty directly as quantitatively determinate probability. For this reason quantitative assessment of institutional changes cannot be exhaustive.

## 6. Conclusions

This study investigates necessity of using the concept “institutional uncertainty” in economic and social researching, proves that the institutional uncertainty exists as a result of imperfect knowledge of economic agents, rooting in economic agents’ mentality, and is the obligatory attribute of institutional environment. It needs to specify the institutional uncertainty from political risks and political uncertainty. Any institutions (laws, norms, rules, beliefs, behavior patterns, and reinforcement) and institutional environment in general have double attribute and the double influence capable to generate “certainty”, “uncertainty”, and “risks” for economic agents. The degree in which institutional environment is capable to influence on a context of economic agents’ behavior and transactions costs cannot be found a priori. The paper based on ideas of F. Knight, K. Arrow, and F. Hayek proves that the institutional uncertainty is Knightian uncertainty. Therefore possibilities of measurement of the institutional uncertainty are limited and quantitative risk assessment of institutional changes cannot be exhaustive. In transitional and developing economies the degree of institutional uncertainty significantly higher than in advanced economies, as a rule.

On the bases of conception of “cognitive rules” putted forward by A. Greif and J. Mokyr this paper considers the role of “law” and “virtue” as mental patterns (ideal images) in origination of the institutional uncertainty at performance of different types of incomplete contracts on micro-level. Also this paper considers the role of “law” and “virtue” as mental patterns in origination of the institutional uncertainty on the macro-level at formation of initial conditions of Industrial Revolution in England at 18th century. The main matters: by whom when for what purposes, and with what results particular laws and particular virtues were demanded and used. The paper makes a conclusion that the story of Industrial Revolution was a result of unique interplay of mainly unique causes.

Cases of transition to new frame of economy and society nowadays repeated this pattern in that sense that combination of causes was unique. Therefore it is difficult to predict evolution of institutional environment in transitive and developing economies. The results of changes of

institutions quality measured by Worldwide Governance Indicator at the period 2002–2017 show that these conclusions have some bases. The process of institutional changes in transitive and developing economies nowadays generates more questions than economic theory can respond and more events than economic theory can predict as D. North made noting that is cited in the beginning of this paper.

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## Conflict of interest

The author declares no conflicts of interest in this paper.

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