

INSTITUTIONALISM IN THE NEW ECONOMIC HISTORY

1. New economic history, cliometrics, and institutional economic history

Institutionalism is a scientific theory that develops on the borders of economic theory proper and the “neighbouring” social sciences. Institutionalism is the application of these sciences’ methods to the analysis of economic processes (“old” institutionalism) or, vice versa, the application of economic methods to the study of problems of these neighbouring sciences. With history being one of the basic social sciences, one of the institutionalist strands is the institutional theories of economic history.

1.1. Institutionalism in the theories of economic history

The development of the institutional economic history reflects the general trends in the development of institutionalism. The first half of the 20th century, i.e. the era of the “old” institutionalism, was marked by the works of the scientists such as M. Weber, V. Zombart, K. Polanyi, N.Elias, that to this day enjoy immense popularity among the economic historians. All these social scientists employed sociological methods in their studies of economic history (mostly the history of the genesis of capitalism). In the second half of the 20th century, the sociological approach in the economic history continued to be developed in the concepts of K.A. Wittfogel, the representatives of economic anthropology (M.D. Sahlins, E.R. Service) and World-System analysis (I.Wallerstein, F.Brodel). In the 1950-s, however, the sociological “challenge” elicited a “response” from professional economists, a new school of thought that has emerged in the USA, which is called the new economic history and cliometrics. The Nobel Prize in Economics awarded in 1993 to the most eminent representatives of this school, Douglas C. North and Robert W. Fogel, signified the prestige of this high-profile area.

Although the terms “new economic history” and “cliometrics” are often used synonymously and are both relegated to the institutional economic history, they are not one and the same.

The expression “new economic history” emerged in the USA in the 1960s when the new school of thought only began to gain popularity. These days, more than 40 years after its nascence¹, it is no longer provokingly new but, rather, is a quite respectable, scientific movement². That is why these days the international scientists prefer to use the term “cliometrics”, quantitative economic history.

Cliometrics is defined as the application of economic theory and quantitative methods to describe and explain historical processes and phenomena in the sphere of economic development, as the integration of ideas from the history, economics, and statistics (Williamson S.H., 1991, cited from [Уильямсон С., 1996, с. 76, 78]). Logically it is only natural that very diverse versions of

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economic history, fundamentally different in many respects, may develop at the intersection of these three disciplines (Fig. 1).

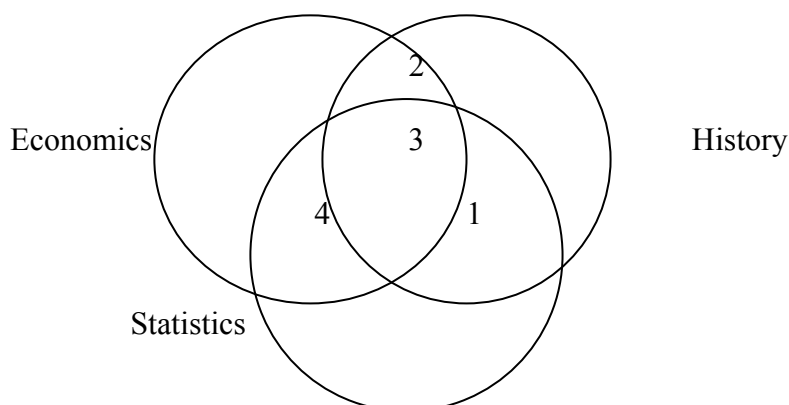


Fig. 1. Interactions between the economic theory, historical science and statistics

1 – quantitative history without economics; 2 – theoretical economic history *sans* π economico-mathematical simulation; 3 – theoretical economic history with economico-mathematical simulation; 4 – econometrics (areas 1 and 3 are part of cliometrics, areas 1, 2, and 3 are part of new economic history).

First, historical science may be integrated with statistics without the participation of economics (area 1 in Fig.1). These are the areas of quantitative history that explore the development of political processes and the impact of climate on history, engage in the context analysis of historical documents, analyse the long-term megatrends in historical growth, etc. The Russian scientists of the 1920s who may be regarded as the founders of this version of cliometrics are A.L. Chizhevskii who discovered the quantitative correlation between the solar activity cycles and the intensity of historical events (“The physical factors of historical processes”, 1924)³ and N.D. Kondratiev (also spelled Kondratieff in the international literature) who, having processed huge bases of historical information, proved the existence of the “long waves of conjunctures” (“Big cycles of conjunctures”, 1925)⁴. While till the 1980s their ideas were excluded from a wider scientific discourse in Russia, they inspired many followers in the foreign economic history. One may recall numerous works on the history of national accounts, such as those by A.L. Vainshtein, P.R. Gregory, V.A. Meliantsev, etc. (see, e.g., A.L. Vainshtein, 1960; P.R. Gregory, 1982; V.A. Meliantsev, 1996). Cliometrics without economics is also represented by the “later” R.W.Fogel who then switched to economic anthropology (see, for instance, Fogel R.W., 1994, 2003). This particular version of quantitative history (which emerged in the 1960s – I.D.Koval’chenko’s school⁵) became the object of the most intense exploration in the USSR and post-Soviet Russia. All these strands are not directly related to institutionalism.

Second, history can be integrated with economics without using the tools of the economic and mathematical analysis (area 2). Actually, any theory of economic history is inevitably based on some paradigm of economics – not necessarily the institutional one. Typically, S. Kuznets and W.W. Rostow are not regarded as the representatives of the new economic history even though their works of the 1950s and 1960s also use economic theories (with the elements of economico- mathematical simulation) to analyse the aspects of economic history related to economic growth. The works of these scholars reflect the Keynesian approach in the economic history. This approach, however, has not been pursued further while the “new economic historians”, rather, adopted the neoclassical ideas and methods. It's another matter that any economic theory, when applied to the past events, becomes inevitably institutionalised. John Hicks’ “Theory of economic history” (1969) is a spectacular example of this trend (cited from: Hicks J., 1969. [Хикс Д., 2003]). Written to demonstrate the possibilities of neoclassical theory (without the mathematical tools), this work

demonstrated that the economic history as an integrated whole cannot be interpreted without at least mentioning the institutional innovations (Yu.V. Latov, 2004). The works of the “mature” D.C. North are an example of conscious use of the institutional theory to recreate a holistic picture of historical evolution practically without cliometrics.

Third, the economic theory used in historical analysis may be integrated with the economic and mathematical methods (area 3). It is this particular area that comprises the core of contemporary cliometrics. The leader of this strand is R.W. Fogel⁶ and the “early” D.C. North also worked within this paradigm. As the mainstream of contemporary economic theory is formed by neoclassics, neoclassical ideas also prevail in cliometrics⁷. These days, however the cliometric tools are also being used by those economists who adhere to other concepts that oppose neoclassics⁸. It is interesting that the cliometrists, by no means always, achieve a seamless integration of economic theory with mathematical methods. The emphasised focus on mathematical tools often leads to insufficient attention given to economic theory proper⁹.

In this paper we will address the institutional economic history in its two modifications, the “Fogelian” and the “Northian”¹⁰. The differences between these two are based on the fact that, while the cliometrists led by R.W. Fogel focus on the new *techniques of the economico-mathematical analysis*, the followers of the “mature” D.C. North focus on the use of neo-institutional *conceptual framework* that is fundamentally new for historians (such as property rights, transaction costs, etc.). Thus the Northian economic history is immanently institutional. As regards the Fogelian economic history, not being directly institutional, it allows for the institutional interpretation. While the Fogelian approach is the earlier one, the Northian approach is a more recent approach.

1.2. The institutional aspects of the Fogelian new economic history

At the early stage of its development (approximately till the 1980-s) the new economic history developed as the young techies’ conspiracy against respectable scientists (Williamson S.H., 1994, p. 114). The young ‘techies’ began to extensively employ computer-aided analysis of historical statistics. The main themes of their analysis were almost exclusively the issues of the USA’s economic history, including the antebellum economics of slavery in the South, the transport revolution of the 2nd half of the 19th century, the formation of the national labour market, the economic crises.

To better understand the “splendour and poverty” of the American cliometrics, let’s consider in more detail the studies on the economy of slavery, as when it comes to the competition between the national models of economic development, the consideration of the institutional aspect becomes extremely important.

The results of cliometric studies of the “proponents of the South” demonstrate not only the creative potential of the new line of research but also its limitations.

The studies of R.W. Fogel and his followers never emphasise their connection with the institutionalist tradition, as cliometrists ‘worship’ numbers while the ‘old’ institutionalism, on the contrary, emerged as a protest against the economico-mathematical formalisation. Objectively, however, the “proponents of the South” succeeded in demonstrating an extraordinary important role of the institutional, non-economic factors of the economic history. For, according to their findings, the impact of moral norms outweighed the purely economic rationale, as, allegedly, the Americans destroyed the efficient slave-owning system under the influence of predominantly moral incentives. Thus, unwittingly, the cliometric studies of the economics of slavery provided the institutionalist economists with a very strong argument.

Abandoning conscious use of the institutional approach, however, often plays a dirty trick with the Fogelian-type cliometrists. One of the essential principles of institutionalism – the orienta-

tion towards the comprehensive approach – has not been absorbed by the cliometrists, which results in the fact that their numerous brilliant ‘findings’ not always add up to a robust, holistic picture. Thus, the most important among the causes of the Civil War, perhaps, was the geo-economic factor: the difference between the North and the South threatened the United States’ integrity as an indivisible state and the ‘parade of sovereignties’ inevitably affects the national economic performance. Thus, acknowledgement of effectiveness of the economics of slavery does not necessarily have to be associated with the Americans’ ‘good morals’; rather, the abolition of slavery does credit to their ability to measure the short-term losses against the long-term advantages. However such integrated, politico-economic approach is hardly possible within the framework of neoclassic ‘mainstream’ proper.

What’s most important is that the in-depth understanding of the institution of slavery in the contemporary time era is possible only by looking at it from above – as an instance of neo-traditional economic relationship. The cliometrists often compare slavery in the USA with that in the other American countries, emphasising the humane nature of the former (it was in the USA only that the population of slaves showed sustainable growth through natural increase). However, no comprehensive theory of temporal regeneration of the archaic forms of exploitation in the genesis of capitalism era (including ‘the second edition of serfdom’ in Eastern Europe and ‘the second edition of oriental despotism’ in the colonies) have been developed yet.

This negative feature of the Fogelian new economic history, the *ad hoc* use of economic-mathematical methods in the absence of the integrated theory, persists and even became aggravated in the 1980-s – 2000-s. As S.A. Lomova notes, “although the cliometrists have revised a great number of conventional concepts in the economic history, they have not always been successful in creating the new conceptual and theoretical constructs” (Lomova S.A., 1997, p.129). One may fully agree with the opinion that the “new historico-economic theories require a major breakthrough beyond the limits of neoclassical theory” (Lomova S.A., 1997, p.130) which is immanently intended for studying the already existing market economy rather than its genesis and transformations.

D.C. North was the first cliometrist who back in the 1970-s succeeded in moving from the studies of individual ‘trees’ to the analysis of the ‘forest’.

1.3. D.C. North’s theory of the institutional change

Having started – like R.W. Fogel – from the cliometric studies of the transport revolution and slavery in the 19th century USA, D.C. North back in the 1970-s attempted to develop an integrated theory of the new economic history. “The Rise of the Western World: A New Economic History” written together with R.P. Thomas was the first attempt at the creation of macrotheory (North D.C., Thomas R.P., 1973).

In their concept of economic progress, D.C. North and R.P. Thomas based on A. Smith’s ideas of the division of labour as the main factor and underlying source of the economic growth. Investments and innovations are the necessary prerequisites for boosting the division of labour. Why did the investments and innovations, however, succeed in playing their role in one case and fail to do so in another? According to the authors of “The Rise of the Western World”, this directly depends on the institutions seen as a set of generally accepted “rules of the game”. The institutional framework is only effective where it provides the conditions necessary for fast economic growth which, in turn, depends first and foremost on the system of property rights (North D.C., Thomas R.P., 1973, p. 2).

The focus on the changes in property rights in the history of society led North to the investigation of the long-term dynamics of activities associated with the protection of property rights.

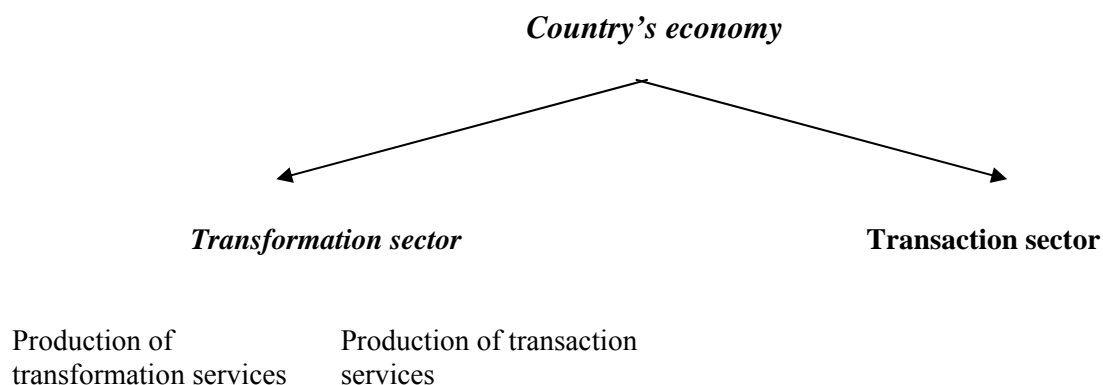


Fig. 2. The structure of economic activities according to D.C. North

As the effective institutions emerge in society, providing strong incentives for creating and enforcing property rights, the indicator of potential for progressive development is the extent of the development of property rights specification activities. For these reasons North proposed to divide all forms of the economic activities into a transformation sector engaged in changing physical properties of products (say, production of bread from grain or gasoline from oil), and a transaction sector engaged in property rights specification (Fig.2). Not only the civil servants' activities (police, courts, etc.) were relegated to the transaction sector but also the distribution, insurance, banking, etc. Moreover, the transaction services are also being developed within the transformation sector by the administrative staff (lawyers and accountants working for the firms producing material goods).

The results of cliometric study carried out together with J. Wallis revealed a pronounced tendency towards the growth of both the absolute and the relative size of transaction sector (table 2): after 1870, it has doubled in the USA, having exceeded more than half of GNP by 1970. This finding helps to better understand the shift from the primary and secondary sectors' domination towards the domination of tertiary sector observed by the postindustrialists back in the 1960-s.

Table 1

Growth of transaction sector in USA's GNP in the 1870s-1970s, %

Years	Private transaction sector	Public transaction sector	Total
1870	22,49	3,60	26,09
1920	35,11	4,87	39,98
1970	40,81	13,90	54,71

Source: (Wallis J.J., North D.C., 1986, p. 121-123).

This new approach towards the understanding of structural shifts in the developed countries' economies enabled D.C North to continue to reevaluate in his book "Structure and change in economic history" (North D.C., 1981) the typology of main phases in the development of society, that had been proposed by Bell and his followers.

It is well known that in the theory of postindustrial society the key milestones of global socioeconomic development are the industrial revolution and the revolution in science and technology. In North's works they are replaced by the First and the Second Economic Revolutions. It has been already mentioned that the former corresponds with the Neolithic Revolution which is practically ignored by the postindustrialists¹¹. As for the Second Revolution, for North it is not the same as the industrial revolution or the revolution in science and technology. North regard the industrial revolution not as a radical break with the past but, rather, as a mere pinnacle of preceding evolution. A true revolution, he believes, only began in the mid-20th century. It is at this time that the systemic

fusion of production and science occurs, accompanied by the strengthening of legal protection of innovations and competition (the laws on patent protection, trade secret, corporate business organisation etc.). North maintains that, while the First Economic Revolution created the agriculture and 'civilisation', the Second Economic Revolution supplied production with growing new knowledge, thus making the economic growth a system resulting from marriage of science and technology (cited from Ye.F. Borisov, 2001).

North's new economic theory culminated in "Institutions, Institutional Change, and Economic Performance" published in 1990 (North 1990, cited from the Russian translation [Hopt Д., 1997]). In this book he completes the reevaluation of the very notion of 'institutions' that were earlier interpreted mostly as an aggregate of organisational frameworks. D.C. North's new book began with a sharp definition: "Institutions are the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction" (North *ibid.*, p. 17). While focusing earlier on the impact of institutions on the change in production, he now shifted his focus towards the changes in the institutions themselves. In this book he also emphasises the sustainability of inefficient norms that not always disappear 'all by themselves' under the influence of more efficient 'rules of the game'.

D.C. North's new economic theory convincingly demonstrates that cliometrics is not necessary for the development of an integrated theory of economic history (the 'mature' North's theoretical works contain not a single formula) although a dialog, even a controversial one, with the 'old' institutionalism tradition is indispensable¹². In his analysis of the institutional change North combined both traditions: as a representative of the 'new' institutionalism, he emphasises the importance of legal institutions and property rights; as a scientist influenced by the 'old' institutionalism, he stresses that transaction costs strongly affect not only the formal but also the informal constraints.

Not too many representatives of the new economic history succeeded in switching from the studies of individual issues in the economic history to the development of its theory. Those economic historians who, apart from North, are not only able to demonstrate the cliometric skills but are also capable of theoretic thinking can be counted on the fingers of one hand: these are Graham Snooks (Snooks G.D., 1993; Snooks G.D., 1996; Snooks G.D., 1998), Avner Greif (Greif A., 2001), Deirdre (Donald) McCloskey (McCloskey D.N., 1987)... Like North's, their theories of economic history also assumes an institutional nature.

The first attempt at the Northian new economic history in Russia was a paper by S.N. Kovalyov and Yu.V. Latov, devoted to the external effects of gentry landowners' estates in pre-revolutionary Russia (Kovalyov, S.N., Latov, Yu.V., 2000). The Northian paradigm found very little support in Russia, probably since it requires combining the knowledge of historical detail with a profound knowledge of economic theory, which is not yet very typical for the Russian historians.

The interpretation of institutions as consciously and/or spontaneously established 'rules of the game', naturally, raises a question of how and why these rules change. The proponents of the new economic history emphasise the conscious choice of norms, the institutional construction and export of the institutions. However, there is another side to the problem of institutional variability, the institutional inertia.

2. Path Dependence Theory

2.1. Birth of the theory of the influence of previous development

In addition to D.C. North's theory of the new economic history, there exists another – similar but relatively independent – theoretical institutional approach to economic history. We are referring to Path Dependence Theory which emerged in the 1980-s. The foundation of this theory was laid by the American economic historians Paul David and Brian Arthur. With the Fogelian and Nor-

thian schools being called the theories of the new economic history, this more recent school may be regarded as the “newest” (or contemporary) economic history. Path dependence is usually translated into Russian as “dependence on previous development”¹³. This theory also addresses the institutional changes and the role of institutions in the technological changes. However, while North’s new economic history focuses on the revolutionising influence of legal innovations and changes in transaction costs on socioeconomic development, path dependence theory concentrates on developmental inertia. In other words, while the proponents of North’s theory explore *how institutional innovations become possible*, those who adhere to the theory of P. David and B. Arthur, on the contrary, explore *why institutional innovations are not always possible*. Moreover, while D. North focuses on property rights in his studies of institutions, P. David and B. Arthur concentrate on the informal selection mechanisms.

With both of these aspects being linked to each other like two sides of a medal, there’s an ongoing intensive interaction and cross-fertilisation of these two institutional theories of economic history. It’s worth noting that in his book “Institutions, Institutional Change, and Economic Performance” D.C. North promptly responded to the ideas of the “newest economic historians” that had only begun to gain popularity, and incorporated them in his theory as one of its essential components.

The history of path dependence theory began in 1985 when P. David published a short paper (David, Paul A., 1985) devoted to a seemingly minor issue such as the development of standard keyboards for typewriting devices.

The typewriter invented in the USA in 1868 had two rows of keys arranged in an alphabetical order, from A to Z. However the first models of typewriters produced by Remington since 1874 had a tendency for the typebars to clash and jam if any two neighbouring typebars were struck in rapid succession. This led to the invention of another type of keyboard in which the typebars for the letters from the most common two-letter combinations were moved to the opposite sides of the keyboard to reduce the frequency of typebar clashes. The QWERTY keyboard which soon became a universal standard emerged in the mid 1870-s. The American C.L. Sholes who invented this kind of typing machine is also the author of the QWERTY arrangement of typebars which appeared as a result of the trial-and-error rearrangements. Thus, the QWERTY keyboard emerged due to temporal technical contingencies. Two decades later the typewriters became so improved that clashing of typebars became impossible but the QWERTY keyboard remained a monopolistic standard. Scientific investigation to identify the optimal arrangement of toolbars led Dvorak, a devoted Taylorist, to patenting a radically new arrangement, DSK (the Dvorak Simplified Keyboard). Although it had been experimentally shown that DSK is 20-40% more effective than QWERTY, the new arrangement has never been widely adopted. Some said that the results of these experiments had been fabricated and advantages of DSK over Sholes’ QWERTY were illusory (Liebowitz S.J., Margolis S.E., 1990). The proponents of DSK, however, confirm that typing becomes much faster in a couple of months after the installation of DSK. It is most interesting that Dvorak’s keyboard is not the best, with other, more effective arrangements having been proposed. However, in spite of all proposed innovations, only a few models feature the new types of keyboards while a vast majority still employs QWERTY.

Being intrigued how this obviously inefficient standard managed to maintain its dominant position for more than half a century, P. David unearthed the circumstances that were even more intriguing. Even back in the 1870-s various keyboard layouts were employed in the USA, including those more efficient than QWERTY. All this diversity, however, disappeared and by the late 19th – early 20th century almost all typewriter manufacturers adopted QWERTY. David thus explained the mystery of QWERTY (David Paul A., 1986):

“To understand what had happened in the fateful interval of the 1890’s, the economist must attend to the fact that typewriters were beginning to take their place as an element of a larger, rather complex system of production that was technically interrelated. In addition to the manufacturers and buyers of typewriting machines, this system involved typewriter operators and the variety of organizations (both private and public) that undertook

to train people in such skills. Still more critical to the outcome was the fact that, in contrast to the hardware subsystems of which QWERTY or other keyboards were a part, the larger system of production was nobody's design... it "jes' grewed." ... Touch typing gave rise to three features of the evolving production system which were crucially important in causing QWERTY to become "locked in" as the dominant keyboard arrangement. These features were technical interrelatedness, economies of scale, and quasi-irreversibility of investment. They constitute the basic ingredients of what might be called QWERTYnomics.”

The factors identified by David lead to one of the many competing standards winning spontaneously, after which returning to standard diversity becomes practically impossible. This is when the feedback effect takes place. Arthur called this phenomenon a ‘lock-in tendency’ (Arthur, W. Brian, 1989; see also Arthur W.B., 1994)¹⁴, referring to irreversible changes occurring in one direction only. Thus the domination of a single standard is inevitable although there is no objective trend to determine which standard will be the winner. This is to a great extent the result of ‘historical contingency’ which, early in the process in question, can define the whole sequence of further events.

It should also be taken into account that, in a situation of uncertainty, the role of people’s expectations becomes very important. “A particular system could triumph over rivals merely because the purchasers ... expected that it would do so. ... Although the initial lead acquired by QWERTY through its association with the Remington was quantitatively very slender, when magnified by expectations it may well have been quite sufficient to guarantee that the industry eventually would lock in to a de facto QWERTY standard.” The growth of expectations can be a consequence of minor events. In case of the QWERTY effect, the role of “historical accident” whose impact on the expectations proved to be decisive was most probably played by a marketing trick employed by the manufacturers of Remington typewriters. In the typing contest at Cincinnati on July 25, 1888, Frank Edward McGurrin competed with Louis Traub, with McGurrin typing on a Remington and Traub using a Caligraph machine. The typewriter used by the winner – McGurrin – featured a QWERTY keyboard. McGurrin became the man of the day and thus promoted Remington with a QWERTY keyboard became extremely popular.

The history of the QWERTY keyboard’s victory over the more efficient standards may seem relatively unimportant in the context of global economic history. The exploration into the economic history of technical standards, however, that began with the pioneering works of P. David and B. Arthur indicated a very wide incidence of the QWERTY effects across practically all industries. Therefore the question of whether the QWERTY keyboard is worse than Dvorak’s keyboard, or whether the discovery of the QWERTY effect resulted from erroneous interpretation of the actual historical circumstances has no relevance at all¹⁵.

2.2. From QWERTYnomics to the economic theory of standards and alternative economic history

The term ‘QWERTY effect’ is used in contemporary scientific literature to denote all types of comparatively inefficient but nevertheless sustainable standards which demonstrate that “history does matter”. These effects can be identified by:

- (1) comparing *currently coexisting* technical standards; or
- (2) comparing the *implemented* technical innovations with *potentially implementable but not implemented ones*.

Although contemporary economics is being long since globalised and unified, various incompatible technical standards still exist in different countries. Some examples of this are well-known, for instance the differences between the left-side (across former British Empire) and right-side driving on the roads in the different countries, which force some car-makers install the steering wheel on the left side while forcing others install it on the right side. Other examples are not so well known, such as the differences in the width of railroad tracks (rail gauge) or power transmission standards.

The rail gauge across different countries and different time periods varied considerably, from 184 mm to 3000 mm. The main standards are the following three: 1067 mm – the Cape gauge (Japan, Republic of South Africa, Australia, Sakhalin (Russia), and many Third World countries); 1435 mm – the European/Stephenson's/standard gauge (more than half railroads across the world); and 1520-1524 mm – the Russian gauge (most post-Soviet states as well as Mongolia and Finland). The result of these differences can be clearly observed when, for instance, crossing our western border where every train has to wait for the wheels to be changed.

Is the European gauge the most efficient one from the technical standpoint? Not at all – the engineers prefer the wide gauge. The European standard was spontaneously formed at the early stages of the development of railroads. When the famous English engineer George Stephenson was working on his steam locomotive in 1825, to simplify its technical implementation, he used the standards of the English horse-drawn carriages, including the 4 feet 8.5 inches width between their wheels. Stephenson used this gauge when building the first railway in the world (connecting Liverpool and Manchester, opened in 1830), which served as a model for building railways both in England and across the continental Europe and North America. Meanwhile it's well known that Stephenson's competitors for the contract proposed a 1676 mm (5 feet 6 inches) gauge. Had this contract been won by Stephenson's competitors, the commonly accepted gauge could have been very different.

When Russia began to build its own railway network, we 'took a different path', having chosen a wider (5 feet) gauge which ensured greater capacity while complicating the crossing of the European border. Both of these factors played a beneficial role in Russia's preparedness for the war with the European countries, while being useless and even detrimental in the current situation.

Could it be that the QWERTY effects only occurred at the relatively early stages of economic history? No, they also manifest themselves in the times of the revolution in science in technology. The examples include the standards of TV equipment (the U.S.A. uses 550 scanning lines on its television sets while Europe uses 800 scanning lines, which is better), videotape cassettes and CDs (the victory of VHS standard over BETA) (see Arthur W., 1990), development of software market (the victory of DOS/WINDOWS over Macintosh) (see Liebowitz S.J., Margolis S.E., 2000), etc.

Compared to the studies of the contests of various competing standards, the analysis of "unrealised economic history" appears more promising although somewhat more speculative. The point at issue is that, according to many economic historians, some technical innovations that won due particular conjuncture circumstances had thus blocked other development paths that could have been more effective.

The idea of comparing effectiveness of the implemented and potentially possible technological strategies was first proposed in R.W. Fogel's notorious book "Railroads and American Economic Growth: Essays in Econometric History" (Fogel R.W., 1964).

Railroad construction was traditionally believed to be one of the 'locomotives' of fast economic growth in the 19th century America. Fogel attempted to revisit, in terms of figures, conventional views of the transport revolution. He developed a counterfactual model of how the USA could have developed if, instead of the 'iron horses', its expanses continued to be furrowed by the stagecoaches and steamers. Using this model, he evaluated the impact of railroad construction not only on the volume of transportation but also on the development of adjacent industries (manufacture of rails and sleepers, coal mining, etc.). The results of mathematical calculations proved to be quite paradoxical: the railroads' contribution was found to be insignificant, amounting to only sev-

eral months of GNP (in 1890 USA's GNP would have been about 5% lower). The technological strategy chosen by the Americans – railroads instead of stagecoaches and steamers – proved to be more efficient than the alternative strategy but much less so than it seemed before.

Fogel's book immediately generated an animated debate (see Promakhina I.M., 1975; Levchik D.A., 1989). The critics justly objected that Fogel's calculations have not been quite accurate as it was difficult to measure what has never existed. The most important thing was that Fogel's model ignored some of the very important qualitative changes generated by the railroads: particularly, that faster transportation enabled production of new goods that could not have been produced otherwise. As a result of this discussion, Fogel changed the direction of his research, having switched from the problems of transport revolution to the issues of the economics of slavery and no longer focused on 'alternative history'. His experience, however, was absorbed by other researchers. P. David and other QWERTYnomists, while not trying to quantify the alternative technological strategies, widely use the qualitative comparisons of what exists in reality with what was potentially possible. Moreover, while Fogel acknowledged that the alternative that had won in the real history was, after all, the most effective one, David's proponents allow for the possibility of less effective alternatives becoming the winners.

Rather than basing on neoclassical economics (like Fogelian new economic history), path dependence theory and similar alternative history studies are based on a metascientific paradigm of synergetics, associated with the ideas of Ilya Prigogine, a famous Belgian chemist (also a Nobel Prize winner) and the author of the theory of self-organisation of order out of chaos¹⁶. According to synergetic approach developed by Prigogine, the development of society is not rigidly predetermined (like "there are no two ways about it"). In reality the periods of evolution when the development vector cannot be changed (attractor-driven motion) alternates with the bifurcation points that provide a possibility of choice. When the QWERTYnomists talk about historical contingency of initial choice, it is the bifurcation points in history that they look at – the moments when only one of a range of alternatives is being chosen. In such moments choosing practically always takes place in a situation of uncertainty and instability of the balance of social forces. Therefore, at bifurcation points, even the minutest subjective circumstances may become decisive – like Bradbury's butterfly effect.

Thus, after many studies of the QWERTY effects, the economic historians were surprised to find out that the numerous symbols of technological progress acquired their familiar look as a result of largely random circumstances and that it is hardly the best world that we inhabit.

2.3. From QWERTYnomics to path dependence theory

The most important of the new ideas proposed to further P. David's original concept is that the triumph of initially chosen standards/norms over others, even those that are relatively more effective, can be observed not only in the history of technology but also in the history of the development of institutions. The 1990-s saw many studies, including the works of Douglas North himself, which explored this new area of using the QWERTY approach. An English scientist D.J. Puffert declared that path dependence for institutions would be quite similar to path dependence for technologies, as both are based on the importance of adaptation to certain common practice (technology or rules) so that the deviations from this practice become too expensive (Puffert Douglas J., 2003a; see also David P., 1994).

While the QWERTY effects are more often mentioned in the descriptions of the history of technological innovations, analysis of institutional innovations, rather, focuses on path dependence, that is dependence on previous development. Both terms, however, are often used synonymously. P. David defined path dependence as follows: "A path-dependent sequence of economic changes is one of which important influences upon the eventual outcome can be exerted by temporally remote

events, including happenings dominated by chance elements rather than systematic forces.” (David Paul A., 1985, p. 332).

In the history of institutions path dependence can be observed at two levels: first, at the level of *individual institutions* (legal, organisational, political, etc.), second, at the level of *institutional systems* (particularly, national economic systems).

Strictly speaking, any example of technological QWERTY effects inevitably has an institutional background as it is not the technologies that compete with each other but, rather, the organisations that employ these technologies (North D.C., 1990, translation into Russian, p. 122). Thus, for instance, the triumph of narrow gauge over the wide gauge is the triumph of better performing (at least in this respect) D. Stephenson’s firm over its better performing but less lucky competitors.

Many studies are devoted to path dependence in the formation of the institutions themselves.

Barry Eichengreen, for example, explored path dependence in the development of international monetary systems such as the classical gold standard of the late 19th century (Eichengreen B., 1996). This dependence was based on the advantages (network externalities) for many countries, resulting from the adoption of monetary system that was common for all countries included in global economy.

Another interesting example of path dependence at the level of a group of institutions was proposed by Rafael La Porta and other proponents of the “new comparative economics”. Comparison of the influence of the common (Anglo-Saxon) law and civil (Romano-Germanic) law systems on economic life convincingly demonstrates the superiority of the common law tradition which protects property rights considerably much better (for instance, protection of minority shareholders’ rights from the corporate managers’ abusive practices) (see., e.g., La Porta R., Lopez-de-Silanes F., Shleifer A., Vishny R.W., 1998). These advantages, however, do not prompt the countries with the civil law tradition (including Russia) to switch to the common law system.

An important contribution to the economic theory of institutional change was made by the Russian economist Viktor Meyerovich Polterovich who analysed a peculiar form of path dependence such as “institutional trap”, as exemplified by the post-Soviet economy (Polterovich, V.M., 1999). Among various development paths some can be more advantageous in the short term while in the long term they are not just less effective than alternative paths (these particular cases have been analysed by the foreign economists) but even completely preclude further development¹⁷. Such was the effect of the development of barter economy in post-Soviet Russia: it allowed to temporarily address the problems of inefficient enterprises while making any radical restructuring of production impossible. As a result, Russia’s economy before 1999 was catatonic and depressed.

Comparative analysis of the national economic systems has a long tradition in the economic science. One may remember, for instance, V.I.Lenin’s works (for instance, “The Agrarian Programme of Social-Democracy in the First Russian Revolution of 1905-1907” written in 1908) – so familiar to the older generation of the Russian social scientists – comparing the Prussian (Junker’) and the American (farmer’s) paths of the development of capitalism in agriculture (see, e.g., Lenin V.I. Vol. 16, p. 215-219). Lenin emphasised that the main obstacle hindering the development of capitalism in Russia was the feudal heritage, the manifestations of which were not only gentry landholding but also the communal land tenure.

The Western economic history also has a long tradition of analysing the groups of countries with similar institutional heritage rather than individual countries. One may remember, for instance, A. Gerschenkron’s theory of the echelons of development (Gerschenkron A., 1962, p. 353-364), according to which the country’s development path is ‘programmed’ for centuries ahead by whether this country succeeded in arriving at the capitalism independently (the first echelon) or through the external influence that had initiated the internal sources of self-development (the second echelon), or the capitalism remains an external ‘implant’. D.C. North worked along the same lines, identifying profound and difficult to overcome the gaps between the development of Latin America which

inherited its institutions from the backward Spain, and North America whose development had been influenced by more advanced English institutions (North D.C., 1990, chapter 12; cited from the Russian translation [Норт Д., 1997, гл. 12]). Strong path dependence was also unanimously pointed out to by the transitologists who emphasised the essentially different outcomes of the economic reforms in Eastern Europe, in the post-Soviet states, and in the Far East countries, all which employed the similar methods.

While the studies of the QWERTTY effects in the history of technology often focus on the role of contingency and conjuncture in the choice of the winning technology, path dependence studies of institutional development place much less emphasis on these factors. It appears that the choice of institution – in contrast to the choice of technology – has a more collective nature and, therefore, is more deliberate¹⁸. Both strands are similar in that the researchers emphasise profound inertia of social development that precludes rapid changes in both the employed technologies and predominant norms.

In Russia the economic history studies carried out within path dependence paradigm are still very rare because the concept of path dependence itself is still unfamiliar to the Russian social scientists, with very few exceptions. However, for fairness sake, a few exercises in counterfactual modeling should be mentioned which, using Fogel’s approach, compare the effectiveness of the realised and unrealised versions of the institutional development.

In one of his last works I.D.Koval’chenko (I.D.Koval’chenko [Ковальченко И.Д.], 1991) proposed the models of possible differentiation of the peasant holdings in Russia in the hypothetical situations where P.A.Stolypin’s reforms had never existed or continued to be implemented till the 1920s. Thus Koval’chenko considered the institutional reform in question within a ‘fork’ where, in one scenario, he had altogether removed it from the history and, in another scenario, he allowed it to develop in the most favourable circumstances. To develop his retroactive forecasts, he used the method of Markov’s chains when the state of an object after a set period of time is calculated, based on initial data concerning the structure of this object and knowing the factors affecting this structure.

Table 2

Percentage of the types of peasant holdings in the European part of Russia

Types of peasant holdings	Percentage of holdings		
	in 1912 , in the absence of Stolypin’s reforms	in 1912, in the actual history	in the early 1920s, if Stolypin’s reforms continued to be implemented
Poor	60	64	66
Medium	32	30	28
Affluent	8	6	6

Koval’chenko’s calculations (Table 2) indicated that there would have been less poor peasants and more medium and affluent peasants if of Stolypin’s reforms never happened, which suggested that Stolypin’s reforms impeded fighting poverty among peasants rather than helped it (as his advocates maintained).

Unfortunately, I.D.Koval’chenko’s demise prevented further retroactive forecasting studies. Among his disciples, there are those who also engage in alternative history, including L.I. Borodkin and M.A. Svishchev who continued their teacher’s work although based on the material of Soviet Russia of the 1920-s.

Using the same method of Markov chains, L.I. Borodkin and M.A. Svishchev developed a retroactive forecast (L.I. Borodkin and M.A. Svishchev [Бородкин Л.И., Свищев М.А.], 1992, p. 348-365) of what the rural social differentiation in Soviet Russia would have been like had the New Economic Policy (NEP) reforms not been interrupted by the ‘Stalinist revolution’ of forced collectivisation.

Their calculations (Table 3) indicated that the bolshevists’ fears of “petit bourgeois” capitalism inevitably developing in the village were very exaggerated. Should the New Economic Policy

reforms have had continued, the proportion of affluent peasants would have grown insignificantly while the number of poor peasant holdings would have had decreased and the number of medium holdings would have had increased. In such scenario, throughout 1924-1940, the crops and livestock numbers would have had increased by approximately 70% and 50%, respectively. In the actual history, however, “the Great Turning Point” resulted in dramatic recession in agrarian production: thus, the livestock numbers only returned to their initial level as late as in the 1950-s. Thus Stalin’s reform of the property institutions, like Stolypin’s reform, must be regarded as failure.

Table 3

Percentage of the types of peasant holdings in the European part of Russia

Types of peasant holdings	Percentage of holdings			
	in 1924, in the actual history		in 1940, in the absence of collectivisation	
	producing regions	consuming regions	producing regions	consuming regions
Poor	29	60	19	39
Medium	68	40	76	60
Affluent	3	0	5	1

Thus, the application of path dependence theory to the economic history of institutions enables the estimation of their alternative costs and, thus, drawing conclusions about the effectiveness of choice made at the bifurcation points of socioeconomic development.

2.4. Technological and institutional factors of path dependence

Foreign literature on path dependence identifies a number of its factors (see, for instance, Puffert D., 2003). While the discoverers of the QWERTY effects – within neo-classical tradition – focused on the technological factors of this phenomenon, D. North and other institutionalists focused on the social factors related to people’s activities.

P. David, the founder of path dependence theory, pointed out, above all, at the *technological interdependence*. The equipment systems (physical capital) and labour skills (human capital) form an integrated system comprising mutually complementary elements, and in many cases it appears that none of these elements can be qualitatively renovated. For example, at the railroads, there’s not a single screw left from the time of the first railways but Stephenson’s standard gauge persists. This is because both the railway track and the wheel sets of rolling stock are the elements of the same system. Therefore when either track or rolling stock wears out it has to be replaced with equipment built in compliance with the old standards (of the same gauge) so that the wheels will fit the track and the track will fit the wheels. As railways almost never replace all their track and rolling stock simultaneously, the initial standard persists beyond the lifetime of any piece of equipment that uses this standard. B. Arthur and D. North interpreted this factor in the institutional context as the ‘*effect of coordination*’ – advantages associated with the collaboration of some economic agents with the others. What should be mentioned in relation to the above-mentioned ‘railroad’ example is the low costs (including transaction costs) for the firms adhering to common standards and the high costs for the ‘Robinson’ type firms.

Another factor is *increasing returns arising from scale economies*. The use of any standard is the more profitable the more often it is used. Thus, when new railways are built, the use of the old standard facilitates connection of the new lines with existing ones. New railroads almost always use the same standards as the established ones even when engineers admit the obsolescence of the latter. Similar phenomena associated with the institutions are called *network effects*. Thus, while every country could have devised its own specific legal system, this would have significantly hindered the development of the international division of labour. That is why countries unify their business-

regulating legal norms (for instance, within the framework of WTO) with the more advantages associated with such unification the more countries join in. Even if some of these norms are suboptimal, they will nevertheless replace better norms employed in only a few countries.

In David's opinion, the most trivial factor of path dependence is the *durability of capital equipment* ("quasi-irreversibility of investment"): morally obsolete capital (both physical and human) may remain in use because of the serious investments in this capital that have not been returned yet. The duration of influence of this factor is limited by the service life of morally obsolete capital that will have to be written off one day. This factor also allows for untrivial institutional interpretation because the norms – as social capital – also may become morally obsolete. Social capital, however, is much more difficult to replace than physical capital. The formation of personality (primary socialisation) takes place at young age and in the following years the adaptation to changing conditions (secondary socialisation) seldom leads to the radical change in the norms, values, stereotypes, and habits established in one's youth. The *durability of social capital* ("quasi-irreversibility of primary socialisation") is greater than the durability of capital equipment as the average lifespan of humans exceeds the lifespan of equipment. Therefore successful institutional innovations occur 10-15 years after the favourable changes in the educational system. Thus, the 'Japanese miracle' emerged with a new generation coming into business, who wanted to 'fight' in business rather than repeat Pearl Harbour.

In P. David's first articles devoted to QWERTY effects his explanation of path dependence was limited to these three factors. B. Arthur proposed yet another explanation or, more precisely, clarified the factor of *increasing returns to scale*. He emphasised the role of "*increasing returns to adoption*". The matter is that when different technologies/institutions compete with each other, initially faster growth of marginal utility may be demonstrated by one variant and then by another. The victory of one of the variants at the early stages of competition, however, may preclude the demonstration of advantages associated with alternative variants. Thus, when cash settlements in Russia competed with barter settlements in the early 1990-s, bartering initially was more advantageous for the majority of firms. When this institutional norm, however, became predominant, it blocked the opportunities for the reorganisation of production.

Contemporary studies of path dependence increasingly more often consider the cultural factors such as mentality, education, and public consent¹⁹. This way the institutional economic history converges with the evolutionary economic history that studies routines, traditions, etc.

The economists' keen interest in path dependence phenomenon is largely associated with its interrelationship with the problem of market 'failures'. If the victory of the worse standards/norms over the better ones is associated with 'shortsightedness' of the market, then this is a very convincing argument in favour of state regulation of industrial policy. The market advocates, however, offer another interpretation: in their opinion, dependence on previous development is a proof of the 'failures' of state regulation rather than the failures of market. The history of the keyboard proves the 'failure' of the market (that is why market 'advocates' S. Liebowitz and S. Margolis challenge the QWERTY "myth" with such ardour), while the history of nuclear reactor proves the 'failure' of government. It is likely that path dependence phenomenon is based on the universal trends in socioeconomic development rather than on specific forms of the manifestations of these trends in contemporary market economy. The development of this strand of economics then is an important step in the formation of 'post-market' economic science.

Although the 'newest' economic history overcomes the limitations of neoclassical economics, it is focused on the events of the last two centuries. Therefore the scientists will have to create a new integrated paradigm of the economic history.

3. Economic history as a global competition of institutions

3.1. Awaiting a new paradigm of the economic history

The prevalence of empirical studies over the “big theory” is a particular feature of the current stage in the development of economic history under the dominating influence of the new economic history. This results in a situation when many interesting and important studies of specific problems remain nothing but the bits and pieces of a mosaic that fails to add up to a holistic picture of historical evolution²⁰. D. North came closest to the creation of a new metatheory although his synthesis is not complete yet. The creation of a new theory of economic history will obviously require the integration of accomplishments of both the ‘new’ and the ‘old’ institutionalism.

One may find in contemporary economic history as a science at least half a dozen institutional concepts claiming the ‘big theory’ status:

- 1) the Marxist tradition of analysing economic history as progressive evolution of production relations, resulting from the development of productive forces;
- 2) civilisational approach based on M. Weber and A.J. Toynbee’s works, and continued in the studies of national economic mentality as the determinants of the national economy models, which are related to ethnosociology (G. Hofstede, H. Triandis, etc.);
- 3) K. Polanyi’s concept of the parallel development of reciprocity, redistribution, and trade as the specific forms of exchange in the situation of social division of labour;
- 4) the theory of postindustrial society developed in the institutionalists’ works (D. Bell, O. Toffler, etc.), which in many respects is a modernised version of the Marxist theory of socioeconomic progress;
- 5) the World Systems approach developed in the works of Immanuel Wallerstein and Fernand Braudel, which focuses on the mutual influence and interdependence of the development of national economies as the elements of an integrated geoeconomic system;
- 6) D.C. North’s new economic history which interprets institutions as “rules of the game” and regards progress in economic history as decreasing transaction costs;
- 7) path dependence theory (P. David, B. Arthur) related to synergetic paradigm, which focuses predominantly on investigating the random or deterministic choice of the new development strategies at bifurcation points;

There is a standpoint (called the ‘post-modern’) according to which the time for the comprehensive (“big”) theories is over and done with, to be succeeded by knowledge which is contextual and fragmentary. In our opinion, this does not imply the disappearance of the era of “big” theories but, rather, implies a temporary pause between the “departure” of one metatheory and “arrival” of another. Such pauses can be observed in the history of science no less frequently than direct replacement of an old theory with a new one. Thus, in the 19th century there was a long pause between the realisation of the crisis of classical political economy and the birth of neoclassics (from the 1840-s to the 1880-s), during which the German historical school, Marxism, cameralistics, and other theories claimed the role of alternative theory.

The new megatheory of economic history is meant to synthesise the best ideas of these paradigms in particular way. We believe that this synthesis may be based on the *interpretation of economic development as global competition of economic systems and institutions*, in the process of which the selection – partly conscious and partly spontaneous – of the most effective pathways for socioeconomic development of humanity takes place²¹.

3.2. The institutional competition

Technological innovations which the orthodox Marxist approach believed to be the main driver of societal development are regarded within the institutional paradigm as the result of institutional innovations generating demand for the new technologies and creating necessary conditions for their implementation in the economic practices. A feedback effect of technological innovations is also possible, however, which becomes particularly intense in the era of contemporary history.

The basic theoretical principle underlying the new approach is the thesis of *competition as essential content of economic history*. There are two aspects of this competition:

- (1) the competition of institutions (“rules of the game”);
- (2) the competition of economic systems as the aggregates of institutional norms.

In the process of competitive selection many norms and systems, in part mutually substitutive, compete with each other. In the course of this competition the most effective institutions and economic systems are selected. A criterion of effectiveness of the competing institutions and systems is their ability to improve people’s well-being in the widest sense (not only material but also spiritual; not only ‘here and now’ but also in a long-term perspective).

The emergence of new institutions and economic systems may be a ‘response’ to the ‘challenge’ of some external (natural) factors but, more often, results from self-development of society itself.

Selection of more effective institutions and economic systems may occur in different ways, both spontaneously (non-consciously) and consciously, forcibly (less competitive institutions become eliminated in the course of revolutions; backward systems perish in the wars with more advanced ones) or peacefully (through economic reforms, export of institutions, and migration of resources). At the early stages of history, spontaneous and forcible competitive selection prevails, to be later followed by the predomination of conscious and peaceful choice. Similarly to the problem of the choice of decision-making rules, studied by public choice theory, the competition of the ways of competitive selection may be regarded as the highest level of competition in the economic history.

It should be noted that, because of path dependence, performance of institutions and systems may vary significantly in the medium- and long-term perspectives. Therefore, initially winning norms and systems may later lose their competitive potential to become the dead-end.

Due to diversity of the competing institutions and systems, the process of societal development is multilinear:

- the competition between different social systems (particularly, command-based industrial system competing with market-industrial system in the 20th century);
- the competition between different civilisational and national systems (thus, in the 20th century, the Soviet, Chinese, and Eastern-European subsystems competed with each other within the command-based system);
- the competition between different institutions within civilisational and national economic systems (e.g. the direct/Keynesian and indirect/neoclassical economy-regulating methods competed in the USA in the 20th century).

Thus, the *economic history* appears as a *sequence of institutional choices – the choices of development paths*, collectively made by the individual social groups and civilisations in cooperation with each other.

3.3. The institutional choice

The institutional choice is a change of both the formal and informal rules as well as the ways and effectiveness of forcible enforcement of rules and constraints.

The changes in formal rules (or in mechanisms ensuring compliance with these rules) usually require considerable resource spending, which limits the possibilities for institutional choice. The economic subjects participate in the institutional choice, applying their talents and knowledge in search of the advantageous possibilities through establishing both the ultimate and intermediate organisations which operate in the economic and political spheres, ensuring required changes in formal rules. The economic changes in formal rules may also occur quite rapidly when the old institutions are suddenly broken or temporarily neutralised (which happens during the periods of revolutions and conquests).

As for the changes in informal rules, they only occur gradually. The rate of changes here is very different – much slower – with an important role played by the culture (as a mechanism for the transfer of values from one generation to the next), contingency, and natural selection.

The organisations play an important role in the institutional changes. The organisation in wider sense is a group of people united by striving to collectively achieve a certain goal. In pursuit of the goal of maximising the income, the organisations and their leaders shape the direction of institutional change (see Fig. 3). There are two basic change strategies: one is implemented within the framework of the existing set of constraints, another requires changes in the constraints themselves.

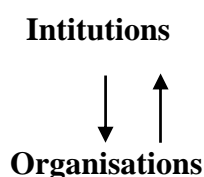


Fig.3. The interactions between institutions and organisations

The process of changes usually includes both the organisational experiments and the elimination of organisational errors. The problem, however, is to what extent society allows for these organisational changes, to what extent it is interested in the elimination of organisational errors. The long-term economic changes typically result from the accumulation of numerous short-term decisions of political and economic agents. These agents' choices reflect their subjective perceptions of the outside world. Therefore the extent of correlation between the outcomes and intentions depends on to what extent these perceptions are correct. As human behaviour models reflect the ideas, ideology, and beliefs (which, in the worst case, are only partly subject to correction and improvement through feedback), in many cases the consequences of consciously made decisions are not only uncertain but also unpredictable. Therefore historical process always allows for alternativeness albeit to varying extent in the different periods.

It must be emphasised that the institutional choice absolutely cannot be reduced to the “institutional market” metaphor. The choice mechanism can be not a market mechanism at all. Moreover, the market itself as an institutional system that emerged in modern times is a result of non-market choice.

References

Borisov Ye.F., 2001. *An anthology on the economic theory*, in Russian [Борисов Е.Ф., 2001. Хрестоматия по экономической теории. М.]

(<http://www.i-u.ru/biblio/archive/borisov%5Fxeconom/ec10.aspx>).

Borodkin L.I., Svishchev M.A., 1992. *The retroactive forecasting of social dynamics of the pre-kolkhoz peasantry: the use of imitation-based alternative models*, in Russian [Бородкин Л.И., Свищев М.А., 1992. Ретропрогнозирование социальной динамики доколхозного крестьянства: использование иммитационно-альтернативных моделей // Россия и США на рубеже XIX – XX вв. Математические методы в исторических исследованиях. М., С. 348-365.]

Borodkin L.I., 1998. *Quantitative history within the modernism and postmodernism frame of reference*, in Russian [Бородкин Л.И., 1998. Квантитативная история в системе координат модернизма и постмодернизма // Новая и новейшая история. № 5. С. 3 – 16.]

Borodkin L.I., 2003. *“Order Out of Chaos”: the concepts of synergetics in the methodology of historical studies*, in Russian. [Бородкин Л.И., 2003. «Порядок из хаоса»: концепции синергетики в методологии исторических исследований // Новая и новейшая история. № 2. С. 98-118.]

Vainshtein A.L., 1960. *National wealth and national economic accumulation in pre-Revolutionary Russia (a statistic study)*, in Russian. [Вайнштейн А.Л., 1960. Народное богатство и народнохозяйственное накопление предреволюционной России (статистическое исследование). М.]

Gumilev L.N., 1966, *The Discovery of Khazaria*. in Russian. [Гумилев Л.Н., 1966. Открытие Хазарии. М.]

History and anti-history: the critique of Academician A.T.Fomenko's "new chronology": Analysis of A.T.Fomenko's reply, 2001, in Russian [История и антиистория: Критика «новой хронологии» академика А.Т. Фоменко: Анализ ответа А.Т. Фоменко. 2-е изд. М.: «Языки русской культуры», 2001.]

Kovalyov S.N., Latov Yu.V., 2000. “” in Russian [Ковалев С.Н., Латов Ю.В., 2000. «Аграрный вопрос» в России на рубеже XIX – XX вв.: попытка институционального анализа // Вопросы экономики. № 4.]

Koval'chenko I.D., Milov L.V., 1974. *The all-Russia agrarian market: 18th – early 20th century. An exercise in quantitative analysis*, in Russian [Ковальченко И.Д., Милов Л.В., 1974. Всероссийский аграрный рынок. XVIII – начало XX века. Опыт количественного анализа. М.]

Koval'chenko I.D., 1987, 2003. *Methods of historical analysis*, in Russian [Ковальченко И.Д., 1987, 2003. Методы исторического анализа. М.]

Koval'chenko I.D., 1991. *Stolypin's agrarian reform (the myths and reality)*, in Russian [Ковальченко И.Д., 1991. Столыпинская аграрная реформа (Мифы и реальность) // История СССР. № 2.]

Crafts N.F.R., translated into Russian [Крафтс Н.Ф.Р., 2002. Экономическая теория и история // Панорама экономической мысли конца XX столетия. В 2-х т. СПб.: Экономическая школа. Т. 2.]

Kuzminov Ya.I., 1992. *The Soviet economic culture: the heritage and the ways of modernisation*, in Russian. [Кузьминов Я.И., 1992. Советская экономическая культура: наследие и пути модернизации // Вопросы экономики. № 3.]

Yu.V.Latov, 2004. *Can economic history not be institutional?* In Russian [Латов Ю.В., 2004. Может ли экономическая история не быть институциональной? // Вопросы экономики. № 2.]

Levchik D.A., 1989. *Robert William Fogel and the "new economic history"*, in Russian [Левчик Д.А., 1989. Роберт Уильям Фогел и «новая экономическая история» // Новая и новейшая история. № 6. С. 181-192.]

Lenin V.I. Complete works, in Russian [Ленин В.И. ПСС.]

Lomova S.A., 1997. *Forty years of the American cliometrics (the notes on the history of the school)*, in Russian [Ломова С.А., 1997. Сорок лет американской клиометрики (заметки по истории научного направления) // Компьютер и экономическая история. Барнаул. (<http://aik.barnaul.ru/aik/krug/keh/lomova.shtml>).]

Lomova S.A., 1997a, *The economic history and cliometrics: self-identification of schools in Russia and internationally*, in Russian [Ломова С.А., 1997 а. Экономическая история и клиометрика: самоидентификация направлений в России и за рубежом // Новая и новейшая история. № 5.]

Marx K., Engels F., in Russian. Cited from: [Маркс К., Энгельс Ф. Собр. соч.]

Meliantsev V.A., 1996. *The East and the West in the second millennium: economics, history, and modernity*, in Russian [Мельянцев В.А., 1996. Восток и Запад во втором тысячелетии: экономика, история и современность. М.]

North D.C., *Institutions, Institutional Change, and Economic Performance*, 1990. Translated into Russian [Норт Д., 1997. Институты, институциональные изменения и функционирование экономики. М.: Фонд экономической книги «НАЧАЛА»].

Poletayev A.V., 1989. *Cliometrics – new economic history – historical economics*, in Russian [Поletaев А.В., 1989. Клиометрика – новая экономическая история – историческая экономика // Истоки. Вып. 1. М. С. 37-42.]

Poletayev A.V., Savelieva I.M., 1993. *Kondratiev's cycles and development of capitalism*, in Russian [Поletaев А.В., Савельева И.М., 1993. Циклы Кондратьева и развитие капитализма (Опыт междисциплинарного исследования). М.: Наука.]

Polterovich V.M., 1999. *Institutional traps and economic reforms*, in Russian [Полтерович В.М., 1999. Институциональные ловушки и экономические реформы // Экономика и математические методы. Т. 35. № 2.]

Promakhina I.M., 1975. *Quantitative methods of research in the works of the representatives of the "new economic history"*, in Russian [Промакина И.М., 1975. Количественные методы исследования в

работах представителей «новой экономической истории» (США) // Математические методы в исследованиях по социально-экономической истории. М. С. 283-319.]

Toffler A., 19780. *The third wave*, translated into Russian [Тоффлер Э., 1999. Третья волна. М.: ООО «Фирма «Издательство АСТ».]

Williamson, S.H., 1991. *The History of Cliometrics*, translated into Russian [Уильямсон С., 1996. История клиометрики в США // Экономическая история. Обзорение. Вып. 1. М. (<http://www.hist.msu.ru/Labs/Ecohist/OB1/willmson.htm>).] Williamson, Samuel H. "The History of Cliometrics." In *The Vital One: Essays in Honor of Jonathan R. T. Hughes*, edited by Joel Mokyr, 15-31. Greenwich, Conn.: JAI Press, 1991. [Research in Economic History, Supplement 6.]

von Hayek F.A.. 1968. *Competition as a Discovery Procedure*, translated into Russian [Хайек Ф., 1989. Конкуренция как процедура открытия // Мировая экономика и международные отношения. № 12. С. 5-14.]

Hicks J., *A theory of economic history*, 1969. Translated into Russian [Хикс Д., 2003. Теория экономической истории. Общ. ред. и вступ. ст. Р.М. Нуреев. М.: НП «Журнал Вопросы экономики».]

Arthur W. Brian, 1989. Competing Technologies, Increasing Returns, and Lock-In by Historical Events // *The Economic Journal*. Vol. 99. No. 394. March. P. 116-131. (См. реферат: <http://ie.boom.ru/Referat/Arthur/Arthur.htm>).

Arthur W. Brian, 1990. Positive Feedbacks in the Economy // *Scientific American*. Vol. 262. February. P. 92-99.

Arthur W.B., 1994. *Increasing Returns and Path Dependence in the Economy*. Foreword by Kenneth J. Arrow. Univ. of Michigan Press, Ann Arbor.

Beer L., Boswell T., 2002. The Resilience of Dependency Effects in Explaining Income Inequality in the Global Economy: A Cross National Analysis, 1975-1995 // *Journal of World-System Research*. Vol. VIII. № 1. P. 30-59.

Bergesen A.J., Bata M., 2002. Global and National Inequality: Are They Connected? // *Journal of World-System Research*. Vol. VIII. № 1. P. 130-144.

Boyd R., Richerson. P.J., 1985. *Culture and the Evolutionary Process*. Chicago: University of Chicago Press.

Conrad A., Meyer J., 1958. The Economics of Slavery in the Antebellum South // *Journal of Political Economy*. Vol. 66. № 1. P. 95-130.

Conrad Alfred H., Meyer John R., 1964. *The Economics of Slavery and Other Studies*. Chicago: Aldine.

Cowan R., 1990. Nuclear Power Reactors: A Study in Technological Lock-in // *Journal of Economic History*. Vol. 50. P. 541-67.

David Paul A., 1985. Clio and the Economics of QWERTY // *American Economic Review*. 1985. Vol. 75. № 2.

David Paul A., 1986. Understanding the Economics of QWERTY: The Necessity of History // *Economic History and the Modern Economist*. Ed. by William N. Parker. N.Y., Basil Blackwell, P. 30-49.

David P., 1994. Why are institutions the “carriers of history”? Path dependence and the evolution of conventions, organizations and institutions // *Structural Change and Economic Dynamics*. Vol. 5. № 2.

Eichengreen B., 1996. *Globalizing Capital: A History of the International Monetary System*. Princeton: Princeton University Press.

Krugman P., 1994. *Peddling prosperity*. New York: Norton.

La Porta R., Lopez-de-Silanes F., Shleifer A., Vishny R.W., 1998. Law and Finance // *Journal of Political Economy*. December (<http://www.hiid.harvard.edu/pub/pdfs/576.pdf>).

Liebowitz S.J., Margolis S.E., 1990. The Fable of the Keys // *Journal of Law & Economics*. Vol. XXXIII. April.

Liebowitz S.J., Margolis S.E., 2000. *Winners, Losers and Microsoft*. Oakland: The Independent Institute.

Margolis S.E., Liebowitz S.J., 1998. Path Dependence // *The New Palgrave Dictionary of Economics and Law*. Ed. by P. Newman. L.: Macmillan.

McCloskey D.N., 1987. *Econometric History for the British Economic History Society*. Macmillan U.K.

- Mokyr J., 2000. Knowledge, technology and economic growth during the industrial revolution // *Technology and Productivity Growth*. The Hague: Kluwert.
- North D.C., 1966. *Growth and Welfare in the American Past: A New Economic History*. North D.C., Thomas R.P., 1973. *The Rise of the Western World: A New Economic History*. Cambridge: Cambridge University Press.
- North D.C., 1977. The new economic history after twenty years // *American Behavioral Scientist*. Vol. 21. № 2.
- North D.C., 1981. *Structure and change in economic history*. N.Y.: Norton.
- North D., 1997. Cliometrics – 40 Years Later // *American Economic Review*. Vol. 87. № 2. P. 412-414.
- Gerschenkron A., 1962. The approach to European industrialization: a postscript // *Economic Backwardness in Historical Perspective: A Book of Essays*. Cambridge (Mass.), Harvard University. P. 353-364.
- Goldin C., 1995. Cliometrics and the Nobel // *Journal of Economic Perspectives*. Vol. 9. № 2. 3. 191-208.
- Greif A., 1997. Cliometrics after Forty Years // *American Economic Review*. Vol. 87. № 2. P. 400-403.
- Greif A., 2001. On the History of the Institutional Foundations of Impersonal Exchange. (http://hal-law.usc.edu/cleo/leo_papers/fall01/greif.pdf).
- Gregory P.R., 1982. *Russian National Income, 1885—1913*. Cambridge, L., N.Y.
- Frank A.G., 1992. *The World System and Its Cycles in the Bronze and Iron Ages*. (http://rojasdatabank.info/agfrank/bronze_age.html).
- Fogel R., 1964. *Railroads and American Economic Growth: Essays in Econometric History*. John Hopkins University Press.
- Fogel R., 1965. The Reunification of Economic History with Economic Theory // *American Economic Review*. Vol. 55. № 2. P. 92-98.
- Fogel R.W., Engerman S.L., 1974. *Time on the Cross: The Economics of American Negro Slavery*. New York: Little, Brown, 1974. Vol. 1 – 2.
- Fogel R.W., 1989. *Without Consent or Contract*. New York: Norton.
- Fogel R.W., 1994. Economic Growth, Population Theory, and Physiology: The Bearing of Long-Term Processes on the Making of Economic Policy // *American Economic Review*. Vol. 84. № 3. P. 369-395.
- Fogel R.W., 2003. Secular Trends in Physiological Capital: Implications for Equity in Health Care // NBER Working Papers. № 9771.
- Puffert D., 2003. Path Dependence // *EH.Net Encyclopedia*. Ed. by R. Whaples. (<http://www.eh.net/encyclopedia/contents/puffert.path.dependence.php>).
- Puffert Douglas J., 2003a. Path Dependence, Network Form and Technological Change // *History Matters: Essays on Economic Growth, Technology and Demographic Change*. Ed. by W. Sundstrom, T. Guinnane, and W. Whatley. Stanford: Stanford University Press. (http://www.vwl.uni-muenchen.de/ls_komlos/nettech1.pdf).
- Snooks G.D., 1993. *Economics Without Time. A Science Blind to the Forces of Historical Change*. London/Ann Arbor, Macmillan/University of Michigan Press.
- Snooks G.D., 1996. *The Dynamic Society. Exploring the Resources of Global Change*. L. – N.Y.
- Snooks G.D., 1998. *The Laws of History*. London & New York, Routledge.
- Solomou S., 1987. *Phases of Economic Growth, 1850-1973*. Cambridge: Cambridge University Press.
- Wallis J.J., North D.C., 1986. Measuring the transactional sector in American economy, 1870-1970 // *Long-Term Factors in American Economic Growth*. Ed. by S. Engerman. Chicago.
- Williamson S.H., 1994. *The History of Cliometrics // Two Pioneers of Cliometrics*. Robert W. Fogel and Douglass C. North (Nobel Laureates of 1993.). Miami University, Oxford, Ohio.

Notes

¹ 1957 may be regarded as the year of birth of the new scientific school, as it was then that A. Conrad and J. Meyer presented their sensational paper at the meeting of the Economic History Association, which demonstrated the profitability of the American South's economics of slavery (Conrad A., Meyer J., 1958).

² The following works are devoted to the development of cliometrics / new economic history: Poletayev A.V. [Полегаев А.В.], 1989, in Russian; Уильямсон С., 1996; Lomova S.A. [Ломова С.А.]; Lomova S.A., 1997, in Russian; [Ломова С.А.] 1997a; Borodkin L.I. [Бородкин Л.И.], 1998, in Russian; Goldin C., 1995; North D., 1997; Greif A., 1997.

³ In the USSR, this strand of cliometrics, mostly focused on the correlation between climatic and social shifts, was further developed by L.N. Gumilev (see, for instance, Gumilev L.N. [Гумилев Л.Н.], 1966, in Russian), and later, in the post-Soviet Russia, by E.S.Kulpin's school of socio-natural history.

⁴ In spite of the numerous studies devoted to the theory of long waves (not only Kondratiev's), both in Russia (since 1980-s) and internationally, it still remains controversial. While some scholars (such as A.G. Frank) identify the long waves in the primitive history, others (such as S. Solomou) doubt even the reality of the existence of Kondratiev's cycles of the last centuries. See: Poletayev A.V., Savelieva I.M. [Полегаев А.В., Савельева И.М.], 1993, in Russian; Frank A.G., 1992; Solomou S., 1987.

⁵ Kovalchenko's "Methods of historical analysis" publicised the opportunities opened by mathematical analysis of the primary historical data to reveal hidden information (Kovalchenko I.D. [Ковальченко И.Д.], 1987). One of the main strands in I.D. Kovalchenko and his colleagues' historico-mathematical studies was analysis of the trends in agrarian sector of Russia's economy in contemporary times. Analysis of the long-term dynamics of prices enabled them to demonstrate that, while a relatively integrated market of the main agricultural products had already formed in pre-revolutionary Russia, the markets of capital resources (labour and, particularly, lands) developed much slower (see, e.g., Kovalchenko I.D., Milov L.V. [Ковальченко И.Д., Милов Л.В.], 1974, in Russian). The Russian-American symposia of cliometrically oriented historians have been convened on Kovalchenko's initiative. Unfortunately, there is another version of quantitative history that is the most popular one among "general public", which, however, was unanimously refuted by normal scientists as it did nothing but discredit the reputation of quantitative historical analysis. The theory in question is A.T. Fomenko's parascientific "new chronology" that was also largely based on the quantitative methods of historical data processing (e.g. on the "dynastic parallelisms"). It has long since been convincingly proven that the "new chronology" is associated not only with the methodologically wrong choice of the objects of historico-mathematical analysis but also with the falsification of mathematical analysis itself when solutions are tailored to fit the preformulated results. See, for instance, "History and anti-history" (История и антиистория), 2001, in Russian.

⁶ Indicative is the title of one of his trend-setting papers, "The Reunification of Economic History with Economic Theory" (Fogel R., 1965).

⁷ According to North, new economic history is based explicitly on the two cornerstones, neo-classical economic theory and quantitative methods (North D.C., 1977, p. 188).

⁸ See, for instance, the papers from the left radical *Journal of World-System Research*, devoted to quantitative analysis of the growing gap between the core and periphery in the second half of the 20th century (Beer L., Boswell T., 2002; Bergesen A.J., Bata M., 2002).

⁹ Crafts' statement that the economic history is nothing but applied econometrics of the past is very typical in this respect (cited from the translation of Crafts's work (Крафтс Н.Ф.Р., 2002, т. 2, с. 992).

¹⁰ Although the quantitative history has long since been developing in many countries across the world (apart from the American new economic history, other widely recognised schools are the

French school of Annales and the Russian school of I.D. Kovalchenko, which have mastered the quantitative methods), the use of economic theory in the studies of economic history still remains an exclusive domain of the American and UK historians. Therefore it is quite proper to call the main strands of the new economic history after the American scientists who are the leaders of these strands.

¹¹ Even in *The Third Wave* by A. Toffler (1980) “the agricultural revolution” (the selfsame Neolithic Revolution which had occurred 10 thousands years ago) is practically beyond the scope of the study (Toffler A.; cited from: Toffler A. [Тоффлер Э.], 1999, с. 38-39, in Russian. Other post-industrialists practically ignore everything that occurred before the industrial revolution.

¹² It has been very clearly acknowledged by D.C. North himself. According to North, the cliometric (descriptive) economic history is practically revolving around the institutions and, when the most experienced specialists undertake to write the narrative, the history appears as continuum and succession of institutional changes, i.e. evolving (North D., cited from: North D. [Норт Д., 1997, с. 167], in Russian.

¹³ Strictly speaking, such simplified approach is not quite correct as it is fraught with oversimplification of the nature of phenomenon. Everything in the world depends on the past in the sense that nothing arises from nothing. The meaning of Path Dependency theory is that the choice made “here and now” is strictly determined by the choice made “somewhere some time ago”.

¹⁴ The term “lock-in” can be found in P. David’s initial papers.

¹⁵ The wide popularity of this new approach to economic history was reflected, for instance, in the views of Paul Krugman, a professor at Massachusetts Institute of Technology, who wrote that “a generation from now ... the economics of QWERTY will still be a vital part of the intellectual tradition” (Krugman P., 1994).

¹⁶ S.E. Margolis and S.J. Liebowitz in their encyclopaedic paper devoted to path dependence very clearly maintain that “Path dependence is the application to economic systems of an intellectual movement that has lately come into fashion in several academic disciplines. In physics and mathematics, the related idea is called chaos – sensitive dependence on initial conditions.” (Margolis S.E., Liebowitz S.J., 1998) (cited from: Paul A. David, Path dependence, its critics and the quest for ‘historical economics’ This paper has evolved from the author’s ‘Keynote Address’ to the European Association for Evolutionary Political Economy, at their Meetings held in Athens, 7-9 November 1997. It has been revised for publication in *Evolution and Path Dependence in Economic Ideas: Past and Present*, edited by P. Garrouste and S. Ioannides, and forthcoming in 2000 from Edward Elgar Publishing, Cheltenham, England.). See also Borodkin L.I. (Бородкин Л.И.), 2003, in Russian.

¹⁷ V.M. Polterovich himself wrote that in this paper “an attempt was made to use Arthur’s and North’s ideas to describe the general pattern of the development of ineffective sustainable institutions that are called here the institutional traps”. In the same paper he equaled these traps with the “lock-in” effect. Comparison of the content of his paper with the works of foreign specialists in path dependence suggests, however, that V.M. Polterovich discovered a specific form of lock-in that differs significantly from those that earlier caught the interest of B. Arthur and D. North.

¹⁸ Another explanation, however, is possible: modeling an alternative version of the institutional history is psychologically more difficult than imagining another version of the development of technology. It is enough to look at alternative history as a sub-genre of science fiction: the writers “invented” steampunk (alternative history of the world without the gasoline-powered engines) while, designing alternative institutions, they are incapable of devising anything more ingenious than prolonging or shortening the “lifespan” of fascism, communism, etc.

¹⁹ The culture is the transmission by teaching and imitation of knowledge, values and other factors that influence behavior from one generation to the next (Boyd R., Richerson. P.J., 1985, p. 2). In the

West, contemporary institutional tradition of the studies of cultural changes is primarily associated with the economics of knowledge (see, e.g., Mokyr J., 2000). In the Russian social sciences, it is Ya.I. Kuz'minov who deserves the credit for attracting attention to culture as an essential factor in the economic changes (see, e.g. Kuz'minov Ya.I., 1992).

²⁰ N.F.R.Crafts forthrightly admits the failures of the attempts to use the economic science's potential in historical studies and vice versa (cited from: Crafts N.F.R. [Крафтс Н.Ф.Р., 2002, т. 2, с. 995], translated into Russian).

²¹ When formulating this concept, the authors draw upon not only the above mentioned theories of historical development but also on the ideas proposed by F.A. von Hayek (von Hayek F.A., 1968 [Хайек Ф.,] 1989, translated into Russian).