

The Trajectory of Douglass North's Institutional Economic Thought: an interpretation of theoretical and analytical mutations and aggregations

A Trajetória do Pensamento Econômico Institucionalista de Douglass North: uma interpretação das mutações e agregações teóricas e analíticas

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Abstract: This article proposes an analytical presentation of the systemic theoretical framework developed by Douglass North. Drawing on his seminal works from 1981, 1990, and 2005, we show how North incorporates heterodox theoretical and analytical categories into the orthodox foundations of economics in order to better explain the phenomena surrounding development. Beyond the categories present in the mainstream approach, he integrates into his explanatory framework more consistent variables such as allocative efficiency, procedural rationality, uncertainty, learning, path dependence, and belief, among others. Finally, North emphasizes the role of institutions as promoters of freedom—and, in turn, of economic change.

Keywords: Institutions, Douglass North, Economic Development.

JEL Classification: B25

Resumo: Este artigo propõe uma forma analítica de apresentação do marco teórico sistêmico, elaborado por Douglass North. Para isso, recorrendo-se às obras seminais de 1981, 1990 e 2005, mostramos como North agrega categorias teórico-analíticas heterodoxas à base ortodoxa de economia para melhor explicar os fenômenos que cercam o desenvolvimento. E, para além das categorias presentes na abordagem do *mainstream*, incorpora, em seu quadro explicativo, variáveis mais consistentes, como eficiência alocativa, racionalidade processual, incerteza, aprendizagem *path-dependence*, crença entre outras. Por fim, enfatiza o papel das instituições como promotoras da liberdade e, esta, da mudança econômica.

Palavras-chave: Instituições, Douglass North, Desenvolvimento Econômico.

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1. Introduction

The New Institutional Economics (NIE), whose main authors include Coase, Williamson, and North, represents a distinct theoretical and analytical strand from the earlier form of economic interpretation developed by the old institutionalists, notably Veblen, Commons, and Mitchell. The latter viewed neoclassical economists' analyses as reductionist and static, focused on equilibrium while neglecting economic change. In response to such criticisms, some NIE authors, over the course of their theoretical development, acknowledge the weaknesses of the neoclassical framework underpinning their analyses, identify its shortcomings, and incorporate more consistent elements into the explanation of economic problems.

By doing so, NIE theorists advance an internal critique of neoclassical theory and bring to light heterodox aspects necessary to broaden that theoretical framework (MEDEIROS, 2001). In this regard, Lopes (2013, p. 620) notes that "[...] the new institutionalism recognizes the inconsistencies of orthodoxy, yet seeks to correct them as its theoretical body advances." Similarly, Gala (2003, p. 132) observes that: "By identifying the difficulties of neoclassical theory in addressing certain problems or previously neglected issues, it begins to reexamine its assumptions in order to introduce the necessary changes to accommodate these problematic phenomena."

In another reference, Toyoshima (1999) reinforces these arguments by noting that the efforts made by new institutionalists do not eliminate the basic assumptions concerning equilibrium—viewed as a condition of stable long-term evolution—or the notion of the individual as a maximizing agent, since choices are made through prices, allowing for utility maximization. Along the same lines, Velasco and Cruz (2003) observe that the task undertaken by new institutionalist authors is one of moderate reformulation: they do not seek to demolish the basic assumptions, but rather to identify the difficulties in addressing certain problems and to introduce analytical categories that better explain the reasons for development.

Among the NIE authors who follow this path is Douglass North, positioned within the macro-analytical current of this theoretical line, whose writings emphasize that, in order to understand how a society's development occurs, it is essential to consider the creation and evolution of institutions. Within this framework, the institutional environment and its dimensions constitute the locus of changes in economic parameters. Thus, the economic performance of societies results from the construction of an institutional matrix that may either stimulate or inhibit economic activities.

According to North (1994), institutions shape individual choices and create a stable environment for investment and capital profitability, thereby influencing economic performance. They represent a structure of incentives expressed through formal (laws, rules, constitutions, etc.) and informal (behavior, conventions, conduct, values, etc.) constraints on the economy. They serve to shape individual choices with the purpose of ensuring a stable economic environment for decision-making (NORTH, 1998; 1991) and influence the behavior of individuals and organizations (NORTH, 2003). In this sense,

institutions are not static; on the contrary, they evolve and change, following distinct historical trajectories in each society.

North, in numerous works, develops this understanding by integrating heterodox theoretical and analytical categories into a framework originally grounded in neoclassical economics. Such an academic stance reveals a continuous theoretical and analytical advancement in the construction of his interpretative matrix of development. By doing so, his interpretation goes beyond the categories present in the orthodox approach—such as economic efficiency, instrumental rationality, property rights, and formal rules, to name a few—and moves forward by incorporating, into his interpretative scheme, heterodox variables such as allocative efficiency, procedural rationality, uncertainty, learning, path dependence, and shared beliefs, among other categories.

Within this context, the purpose of this article is to trace the process through which North aggregates theoretical and analytical variables into his interpretative scheme aimed at explaining economic development. Our goal is to address what we identify as the theoretical framework constructed by North (1973) to North (2005), rather than discussing his intellectual trajectory as a whole, including his engagement and later divergence from cliometrics during the 1960s, or the subsequent shift in focus in North, Wallis, and Weingast (2009).

To achieve this goal, the article is organized into eight sections. Section 1 presents the introduction. Section 2 outlines a general framework encompassing the levels at which the explanatory variables of North's interpretative matrix of development are located. Section 3 examines the macro-level concepts of the institutional framework, emphasizing aspects of formal and informal constraints. Section 4 discusses the meso-level concepts, with particular attention to uncertainty and path dependence. Section 5 addresses the micro-level concepts, focusing on adaptive efficiency, cooperation, transaction costs, and institutional and economic change. Section 6 presents a summary framework referencing the main additional concepts integrated into North's theoretical and analytical scheme. Section 7 discusses the concepts advanced by North, Wallis, and Weingast (2009) and explains why they are not incorporated into the theoretical framework developed in this article. Finally, Section 8 offers the concluding remarks.

2. General Interpretative Framework of North on Economic Development

North (1990, p. 13) emphasizes the central role assumed by institutions as drivers of economic development, stating that: "That institutions affect the performance of economies is hardly controversial. That the differential performance of economies over time is fundamentally influenced by the way institutions evolve is also not controversial." However, he immediately qualifies this statement, noting that despite the importance attributed to institutions as a key element in economic development, they were given little space within the "neoclassical" economic theory.

North and Thomas (1973, p. 1) argue that analyzing economic development as a consequence of institutions is "revolutionary," since it introduces a new explanatory

element—institutions—and seeks to expand the neoclassical analytical framework. Later, North (1981, p. 62) contends that extending the neoclassical model to incorporate transaction costs, as intended, allows for a better analysis of economic organization and of the relationship between property rights and the productive potential of an economy. Subsequently, North (1990, p. 17) reaffirms that “Defining institutions as the constraints that human beings impose on themselves makes the definition complementary to the choice theoretic approach of neoclassical economic theory.”

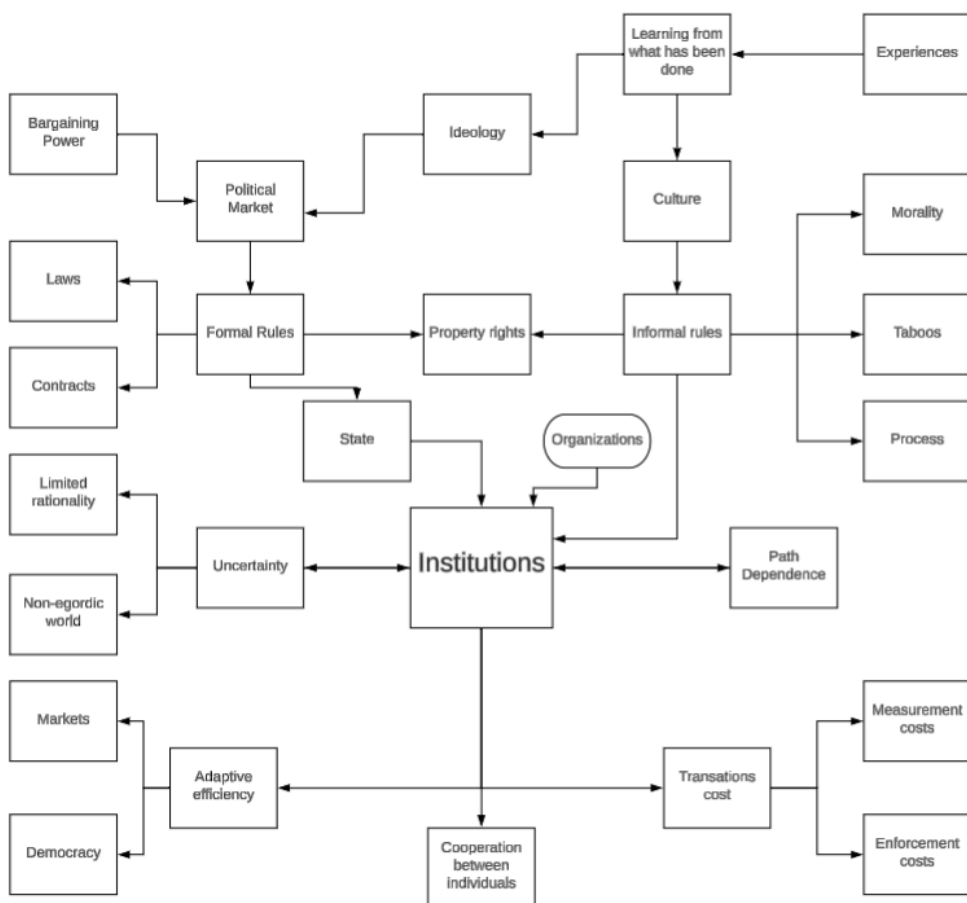
Later on, North (2005, pp. viii and 65) distances himself further from neoclassical theory, regarding it as incapable of explaining change, since it lacks three essential elements: (i) it has no “friction,” as transaction costs are assumed to be zero; (ii) it is static, given that the dimension of time is not considered; and (iii) it disregards the intentionality of agents. Confronted with the inability of neoclassical theory to explain “the nature and causes of the wealth of nations,” North locates the answer elsewhere—in the institutions.

North (1990, pp. 13-18) defines institutions as “the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction. [...] The major role of institutions in a society is to reduce uncertainty by establishing a stable (but not necessarily efficient) structure to human interaction.” Since institutions set the boundaries for “how the game is played,” it is also necessary to define the “players”—the organizations—which are “groups of individuals bound by some common purpose to achieve objectives” (NORTH, 1990, p. 16).

In this framework, the interaction between organizations and institutions in the process of institutional persistence and change is emphasized (NORTH, 1990, pp. 20-21). A symbiotic relationship fosters the lock-in between organizations and institutions—a phenomenon that occurs when a high level of alignment exists between the two, so that their existence and continuity are intertwined. This process is reinforced through feedback mechanisms, making organizations and institutions mutually dependent and thereby promoting institutional persistence and/or change.

To interpret the theoretical framework developed by North, the content has been organized into distinct analytical blocks. Didactically and analytically, the concepts and their exposition are structured into three blocks, derived from the author's position regarding the fundamental notion of institutions, namely the macro, meso, and micro levels. To facilitate understanding, an illustrative description can be drawn from Figure 1. At the top are the concepts situated at the macro level of institutions; those on the horizontal plane represent the meso-level concepts (at the same level as institutions); and those at the bottom correspond to the micro-level concepts.

Figure 1: The Interpretative Framework of Douglass North



Source: Elaborated by the authors based on North (1981, 1990, and 2005).

In the first block, representing the macro-level concepts, are those considered components of institutions or, in a sense, more as causes than as consequences of institutions—although feedback mechanisms exist. This block includes laws, contracts, rules, ideology, culture, morality, taboos, property rights, the State, experience, learning, among others.

At the meso level, there are two concepts that exhibit a high degree of complementarity with institutions, yet maintain an “independent existence”: uncertainty and path dependence. Uncertainty has its own causes and exists independently of institutions, but institutions exist to manage the uncertainties arising from human

interaction. Path dependence refers to the idea that “history matters,” as past, present, and future are connected through institutions.

In the third block, the micro-level concepts are those linking institutions to economic development. These ideas are understood more as consequences than as causes of institutions. Included in this context are categories such as the market, democracy, adaptive efficiency, transaction, measurement, and enforcement costs, and cooperation among individuals.

3. The Macro-Level Concepts of Institutions

According to North (1990, p. 14), institutions can be formal or informal, created or evolutionary. Formal rules are defined as those that: “include political (and judicial) rules, economic rules, and contracts. The hierarchy of such rules, from constitutions, to statute and common laws, to specific bylaws, and finally to individual contracts defines constraints, from general rules to particular specifications.” (North, 1990, p. 86).

Formal rules are created when they result from the deliberate action of a legislator, which characterizes the Civil Law system of Romano-Germanic origin, and are evolutionary when they emerge from an unstructured process of change over time, reflecting the gradual transformation of customs into rules, as occurs in the Common Law tradition of Britain.

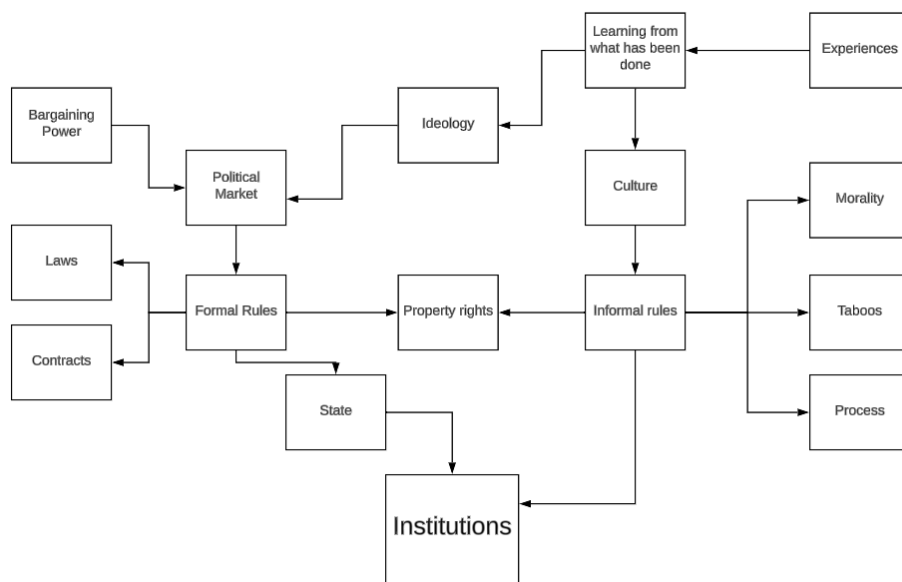
Informal rules, in turn, are understood by North (1990, p. 54) as those: “that have never been consciously designed and that it is in everyone's interest to keep.” Informal constraints are inherently evolutionary and make up the majority of the regulations that shape everyday behavior. They encompass morality, taboos, and customs, and are transmitted through culture.

North (1990, p. 85) emphasizes that formal and informal constraints differ in degree. At one extreme are taboos, which govern less complex societies; as human organizations become more intricate, there is a unidirectional tendency toward greater formalization of the rules guiding community life, reaching the other extreme, where constitutions are established.

There is a strong complementarity—and sometimes tension—between both types of constraints. According to North (1990, p. 86), “Formal rules can complement and increase the effectiveness of informal constraints. They may lower information, monitoring, and enforcement costs and hence make informal constraints possible solutions to more complex exchange.” In this regard, he also notes that “a major role of informal constraints is to modify, supplement, or extend formal rules [...] However, sometimes formal rules are developed deliberately to overrule and supersede existing informal constraints that no longer meet the needs of newly evolved bargaining structures” (NORTH, 1990, pp. 150-151). The synergy or incompatibility between formal and informal constraints lies at the core of how property rights are defined, the set of opportunities available to organizations, and, consequently, development.

Property rights are defined by North (1990, p. 64) as: “the rights individuals appropriate over their own labor and the goods and services they possess. Appropriation is a function of legal rules, organizational forms, enforcement, and norms of behavior – that is, the institutional framework.” Moreover, property rights result from both formal rules (legal statutes, organizational forms, etc.) and informal rules (forms of conduct) (NORTH, 1990, pp. 94-97).

Figure 2 – Macro-Level Concepts of Institutions



Source: Elaborated by the authors based on North (1981, 1990, and 2005).

In his 1973 work, North observes that property rights are instituted over resources and goods in a cost-benefit relationship, meaning that simple changes in relative prices resulting from shifts in relative scarcity could induce the creation of efficient institutions. This framework, however, did not explain the persistence of inefficient institutions. Furthermore, in his 1983 book—written in the aftermath of what he called the neoclassical theory of the State—he argues that property rights could be inefficient, as they are enacted to serve the specific interests of those with greater bargaining power. Finally, in the third version of his 1990 book, North contends that the quality of property rights stems from inefficiencies in the political market. Thus, high transaction costs in political markets and

the various mental models of actors have led to property rights that are not conducive to economic growth, since agents may lack incentives to design more productive rules.

3.1 Origin and Enforcement of Formal Constraints

According to North, in complex societies, the enforcement of formal constraints is carried out by a third party—the State—which holds a comparative advantage in the use of violence. Power over the State derives from what North calls the political market—the arena in which the influence of organizations and agents depends on their bargaining power. The choices made by organizations within the political sphere, in addition to following a cost-benefit rationale, also respond to what North refers to as ideology, which stems from how individuals perceive and interpret reality.

North (1981, p. 21) defines the State as: “an organization with comparative advantage in violence, extending over a geographic area whose boundaries are determined by its power to tax constituents.” The State holds a comparative advantage in the use of violence and possesses the power to specify property rights and enforce them. This results from the very nature of property rights, which are defined by the ability to exclude others from access to a given asset—the State being the most efficient agent in exercising the coercive means that guarantee such rights.

Based on this understanding, North (1981, p. 20) poses two fundamental questions: (1) why do States so often generate inefficient laws? And (2) why is there so much instability within the State? In seeking to answer these questions, he turns to the neoclassical model of the State—one inspired by the notion of monarchy, where the owner of the State is the ruler—which is characterized by: i) the monopolistic sale of protection and justice; ii) the ruler acting as a discriminatory monopolist; and iii) the ruler's actions being constrained by competition from other rulers and potential rivals within the same organization.

Given these elements, the objectives of the State, understood as the property of the ruler, are: i) to provide a regulatory framework that generates a system of property rights maximizing the ruler's income; and ii) to reduce transaction costs to foster growth, thereby increasing the ruler's revenues.

North also highlights a tension inherent in the State's actions. On the one hand, efficient institutional arrangements generate prosperity; on the other, they may not be the same arrangements that maximize the revenue of the ruler and the political-economic group supporting them, potentially giving rise to competing rulers. At the other extreme, the institutional arrangement that maximizes the revenue of the ruler and their allies is not necessarily the one that produces higher economic growth. This, in turn, weakens the country, making it more susceptible to invasion or conquest by rulers from other States. These problems arise from the fact that rulers have their own functions and utility, and if the State is omnipotent, those who control it may exploit society.

According to North (1981, pp. 43-44), the neoclassical model of the State is insufficient to provide a coherent analysis of the definition and enforcement of property

rights, as well as of the political market underlying the functioning of the State. The reason for its limited explanatory power is the complete absence of what he calls ideology, coupled with a disregard for the realities of modern democracies. In this context, competing interest groups in the political market fight for advantages, relying on ad hoc explanations such as self-interest.

Another explanatory variable for development is ideology, which North (1990, p. 47) defines as “subjective perceptions (models, theories) all people possess to explain the world around them. Whether at the microlevel of individual relationships or at the macro level of organized ideologies providing integrated explanations of the past and present, such as communism or religions, the theories individuals construct are colored by normative views of how the world should be organized.”

From this perspective, ideologies and agents' bargaining power are essential to understanding inefficiencies in the political market, which help explain the existence and persistence of institutional forms unsuitable for economic development. Ideologies account for why many behaviors that appear incoherent from a cost-benefit perspective occur in the real world; the more detached and imprecise these ideologies are, the greater the likelihood that countries become trapped in harmful institutions.

Ideologies also serve as a justification for, in historical reality, overcoming the free-rider problem—which, according to neoclassical theory, should prevent revolutionary movements, where personal risks (death, torture) far outweigh the benefits that are supposedly collective. The formation of ideologies, shaped by culture and prior social experiences, is also important in reducing enforcement.

Agents' bargaining power constitutes another source of friction, which can hinder the functioning of the political market. In this case, it represents a mechanism to overcome the problem of temporal inconsistency in political negotiation. Cooperation agreements are defined *ex ante*, so that when one party has fulfilled its part, the other may no longer be motivated to perform its agreed obligations. In this context, groups with significant power in the political market and involved in repeated negotiations are less likely to be deceived and have greater ease in imposing their interests in the political sphere. Conversely, in an institutional arrangement that is inefficient for society, the strength of certain organized groups may lead to a lock-in, but it can also act as a driver of transformation.

North (2005, p. 55) also emphasizes that democracy, although it is the system that promotes the greatest adaptive efficiency and would therefore reduce political and economic transaction costs, tends to be captured by special interests and used for their own benefit at the expense of the broader public. Although democracy is, in theory, more efficient by granting the majority of the population a voice, political efficiency cannot be thought of in the same terms as an efficient market (with zero transaction costs).

3.2 Learning, Culture, and Customs: The Functioning of Informal Rules

According to North (2005, p. 50), formal rules—subject to the arbitrariness of the political market—can be changed by fiat during revolutions or simply as a reflection of the

will of those controlling the State at a given moment. In contrast, informal rules are the element that provides stability to institutional functioning and, consequently, to society.

North (2005, p.161) also notes that changes in formal institutions are more likely to occur during moments of crisis within the dominant class, whereas informal constraints, which form the foundation of institutional stability, tend to evolve very slowly. This is the main reason why institutional change always occurs incrementally. Education and the transmission of information play an important role in institutional change, but the creation of a stable and consensual policy takes time. Thus, changing formal rules alone appears to be a recipe for failure.

Informal constraints, according to North (1990, p. 76), encompass three important aspects, serving as elements of coordination in human life. The first involves the expansion, refinement, and modification of formal rules, such as unwritten rules embedded in parliamentary activity. The second aspect concerns socially sanctioned behavioral norms, whereby many situations are resolved through informal norms rather than formal rules. Finally, the third mode of operation of informal constraints comprises internally imposed patterns of conduct—particularly values, notions, ideologies, and convictions—which become more relevant the lower the cost of sustaining them. However, although informal constraints are a fundamental element in the functioning of society, unlike formal rules, they are characterized by self-enforcement.

Even though it is difficult to determine the origin and mechanisms of self-enforcement for formal constraints, it is clear that the fundamental element of their transmission is culture, defined by North (1990, p. 70) as: “transmission from one generation to the next, via teaching and imitation, of knowledge, values, and other factors that influence behavior.” In the short term, culture is the vehicle through which perceptions of reality are transmitted over time, affecting how experiences are interpreted in the present. However, one may ask: what is the origin of culture? What explains the considerable cultural diversity among peoples?

According to North (2005, p. 30), although genetics plays an important role in how we process information, it cannot by itself explain the cultural diversity observed among different societies. Furthermore, the vast range of experiences to which human beings have been exposed over time has produced immensely diverse cultures, with varying combinations of supernatural beliefs and institutions. Unlike Darwinian evolution, in which the transmission of genetic traits occurs unintentionally, culture evolves through a “Lamarckian” process, whereby the characteristics acquired by a people are transmitted to subsequent generations through the intentional actions of individuals.

Within the Lamarckian perspective of culture, North (2005, pp. 35-36) cites Hayek to argue that culture is an adaptive process that accumulates partial solutions to problems frequently encountered in the past. This understanding directly underscores the importance of the cognitive component of institutions, since the way individuals perceive reality and devise solutions to challenges generates a vast wealth of “artifacts” that help reduce uncertainty in the world. Thus, the richer this interpretive structure, the greater the capacity to comprehend reality.

Understanding how learning occurs at the individual level is an important element in the formation of culture and, consequently, of informal constraints, which allows us to grasp how the process of deciphering reality takes place. In the debate on how the human mind operates, North (2005, p. 31) suggests that connectionist theory appears more consistent with the trial-and-error process that characterizes institutional development. According to connectionist theory, the brain learns, starting from simple units, to recognize patterns and, from there, is able to generate complex arrangements. The capacity to produce new knowledge, which will be transmitted culturally to subsequent generations, arises from a continuous process of recreating mental models.

As emphasized by North (2005, p. 34), connectionist theory links learning about reality with Darwinian genetic evolution, language, and culture. Given the connection between mind and environment, and as language and learning transmission developed, it became possible to accumulate increasingly precise ways of apprehending reality and to alter our relationship with the environment, thereby reducing the uncertainty inherent in human existence. Thus, it is assumed that the process of knowledge transmission and accumulation would advance exponentially, explaining the slow evolutionary process that began millions of years ago with the first hominids, led to the emergence of *Homo sapiens*, and produced the vast increase in environmental understanding, culminating in the reduction of uncertainty achieved over the following millennia.

The sophistication of human interpretations of the world stems from what North (2005, p. 40) called consciousness, which, over the long term, gave rise to history, science, art, and culture more broadly. Consciousness is divided into two categories: core and higher order. Core consciousness is the capacity to perceive things in the world and is common in animals that have not developed language. Higher order consciousness, characteristic of humans, entails an understanding by a thinking being of its own actions and affections within a mental model of the self that incorporates past, present, and future.

Through higher order consciousness, human beings distinguished themselves from animals in two dimensions. The first involves a conscious awareness of the future—present in religion, myth, and other forms of supernatural explanation—which the author refers to as extended awareness: that which drives humans to seek explanations for phenomena not directly perceptible in the physical world, such as superstitions. The second dimension results in the development of increasingly complex institutions and artifacts that reveal the intentionality of consciousness, thereby regulating an ever-expanding structure: human activity itself (NORTH, 2005, p. 40).

Thus, the interpretations developed to explain reality—transmitted over time through cultural transmission—are grounded in the reduction of the uncertainty surrounding human life, which, in turn, mitigates transaction costs. Supernatural beliefs and religions lie at the origin of moral codes, and the continuous re-elaboration of institutions in response to new experiences and knowledge fosters the flourishing of societies endowed with increasingly complex social and commercial relations. This phenomenon is fundamental to understanding the process that North calls path dependence.

4. Meso-Level Concepts of Institutions

4.1 Uncertainty

In neoclassical economic theory, agents possess perfect information to evaluate all options and always make the correct decisions. Individuals hold the “correct models” of how the world works and make no mistakes in applying them. This is referred to as substantive or instrumental rationality, since, according to Simon (*apud* North, 1990, p. 47), “The rational person in neo-classical economies always reaches the decision that is objectively, or substantively, best in terms of the given utility function.”

The implication of substantive rationality and perfect information would be something like a “frictionless model,” in which transaction costs are zero and institutions would be unnecessary, since there would be no uncertainty to manage. As argued by North (1990, p. 181), transaction costs arise because information is costly and asymmetrically distributed. In the absence of perfect information, any type of institution results in some degree of market inefficiency, as markets generate mixed incentives. The reason is that, while institutions encourage exchange, they also create greater opportunities for cheating and free-rider behavior.

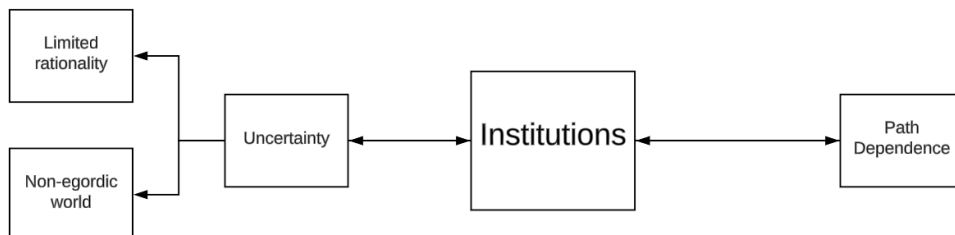
According to North (2005, p. 23), conventional substantive rationality appears to be an adequate description of agent behavior in situations resembling perfect competition, in games that are repeated and with automatic feedback. However, complex situations typical of modern societies seem to require a different conception of rationality. For this reason, North's theoretical framework incorporates the concept of procedural or bounded rationality, developed by Herbert Simon.

According to Simon (*apud* North, 1990, p. 47), “The rational person of cognitive psychology goes about making his or her decisions in a way that is procedurally reasonable in the light of the available knowledge and means of computation.” Based on this reference, North emphasizes the importance of subjective and incomplete information processing as a component in decision-making, which gives ideology (the subjective perception of reality) a significant role in individual choices.

Thus, when considering procedural rationality, agents' perceptions of the world and their decisions are regarded as imperfect. If reason is an imprecise instrument for apprehending reality, a large space is opened for subjectivity in human decision-making. This condition also affects the creation of institutions, which will likewise be imperfect and shaped by the beliefs of their creators, reflecting unequivocally who those creators are.

In this context, one can observe North's critique of neoclassical theory, in which the world is regarded as static, implying that uncertainty is a function of our knowledge. Thus, if perfect information were available, uncertainty would be reduced to zero. Likewise, by presenting the world as ergodic, this approach assumes an ahistorical perspective in which the past has no influence on the present. In this theoretical line, uncertainty is treated as a calculable risk, and choices take place in a world where “novelty” is impossible to anticipate (NORTH, 2005, p. 19).

Figure 3 – Meso-Level Concepts of Institutions



Source: Elaborated by the authors based on North (1981, 1990, and 2005).

In contrast, North conceives of the world as non-ergodic—also referred to as a state of genuine uncertainty. This is a world in which not all possible events are known; it is non-probabilistic, which is the formulation adopted by North, especially in his 2005 work. Non-ergodicity implies the possibility of unprecedented events, making it particularly relevant for a theory, such as North's, designed to explain institutional and economic change.

The concepts of uncertainty and institutions are tightly intertwined. The existence of genuine uncertainty makes the future a “blind flight,” and institutions that are conducive to development today may become obstacles tomorrow. Thus, institutional change is built on the present and the past, and choices regarding how to respond to the continuous novelties of a non-ergodic world are constrained by decisions made previously—path dependence.

4.2 Path Dependence

North (2005, pp. 51-52) defines path dependence as: “the way by which institutions and beliefs derived in the past influence present choices [...]. Path dependence is not ‘inertia,’ rather it is the constraints on the choice set in the present that are derived from historical experiences of the past”. Path dependence is “the key to an analytical understanding of long-run economic change” (1990, p. 188), and “The central puzzle of human history is to account for the widely divergent paths of historical change” (NORTH, 1990, p. 19). Understanding how path dependence affects the process of economic and, consequently, historical change is crucial to gaining insight into why countries differ from one another.

Another important aspect of path dependence is the expanded reach of the building blocks—scarcity and competition as driving forces of organizations—of neoclassical

theory, which, however, undergoes analytical changes as incomplete information, agents' subjective models, and increasing institutional returns are introduced into the framework. In this sense, two elements are fundamental for path dependence to occur: transaction costs and increasing returns.

Regarding the first of these causes of path dependence, North (1990, p. 158) emphasizes the correlation between transaction costs and path dependence. If we lived in a world of zero transaction costs—as assumed in neoclassical economics—institutions would automatically adjust to any change in relative prices or agents' preferences. Thus, the present would not “carry” the past—it would merely reflect the current circumstances. For path dependence to exist—that is, for “history to matter”—there must be friction in the functioning of institutions. But this raises the question: how does path dependence emerge in this imperfect world?

The second and main cause of path dependence lies in the increasing returns associated with institutions. North (1990, pp. 160-162) identifies four self-reinforcing mechanisms linked to increasing returns that can make an institutional arrangement endure. The first is the existence of large initial setup costs, since constitutional reform entails the burden of political coordination. The second involves learning effects, as organizations adapt to established canons, increasing their conformity and efficiency relative to existing rules. The third mechanism refers to coordination effects, resulting from greater synergy among organizations that adopt the same procedures. Finally, the fourth mechanism is adaptive expectations, whereby rules evolve and adjust as the economy develops.

There are also four consequences of these self-reinforcing structures. The first is the existence of multiple equilibria, since small shocks or choices can generate distinct institutional trajectories with disparate outcomes. The second is the persistence of socially inefficient institutional arrangements, as shifting to a superior paradigm can be costly, and society may be unwilling to bear its burden. The third implication is the generation of interdependence among the parties, when organizations and institutions acquire a high degree of symbiosis, whose existence requires mutual permanence. The fourth consequence is path dependence itself, in which small random events can have long-term consequences for the institutional trajectory.

North (2005, p. 51) identifies the way individuals apprehend the world as an indirect cause of path dependence. Given that the process of decoding reality and transmitting knowledge takes place through culture—and that culture is connected to the prevailing institutional arrangement—the way individuals understand the world and propose to change it is mediated by existing institutions. Thus, reproduction over time occurs through people's own mental models.

In this regard, North (1990, p. 84) further states that “The long-run implication of the cultural processing of information that underlies informal constraints is that it plays an important role in the incremental way by which institutions evolve and hence is a source of path dependence.” Such evolution occurs incrementally, and changes in the institutional trajectory stem from unforeseen consequences of choices, from externalities, and from elements exogenous to the analytical framework (NORTH, 1990, p. 188).

5. Micro-level Concepts of Institutions

5.1 Adaptive Efficiency

According to North (1990, p. 139), adaptive efficiency refers to “the kinds of rules that shape the way an economy evolves through time.” It is also concerned with the willingness of a society to acquire knowledge and learning, to induce innovation, to undertake risk and creative activity of all sorts, as well as to resolve problems and bottlenecks,” in contrast with Pareto allocative efficiency as considered by neoclassical theory.

Drawing on Hayek's argument, North (1990, pp. 140-141) notes that, once we take into account uncertainty in a non-ergodic world—one we do not fully comprehend (procedural rationality)—the neoclassical notion of utility or profit maximization (allocative efficiency) becomes unfeasible, since we do not know what the correct solution to the problems we face actually is. For this reason, the greater the number of responses an institutional arrangement allows to a given challenge, the higher the likelihood that good solutions will emerge. Adaptive efficiency is thus associated with the freedom of organizations to act in a decentralized manner, maximizing their efforts in the search for distinct solutions to common problems.

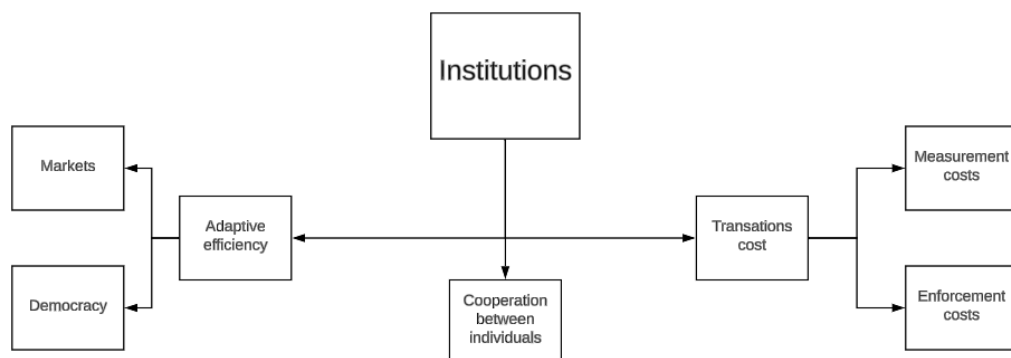
The prevailing institutional framework in a country will display greater adaptive efficiency the more it rewards success and quickly eliminates failure. As North (1973, p. 5 ff.) emphasizes, economic growth stems from institutions that encourage the direction of efforts toward activities that bring the private rate of return closer to the social rate of return.

Organizations are thus rewarded or penalized according to the positive and negative externalities they generate.

The main mechanism linking private and social benefits is the establishment of property rights. An example offered by North is the introduction of intellectual property rights, which increased agents' incentives to develop new technologies and consequently boosted economic productivity. North (1981, p. 67) refers to the intensification of this phenomenon in the second half of the nineteenth century—marked by the convergence of science and technology—as the Second Economic Revolution.

However, despite being a key element in the development of the West over the past centuries, North questions why it has been so difficult worldwide to establish property rights that promote adaptive efficiency and align private benefits with social benefits. The author identifies two fundamental reasons for the existence of inefficient property rights. The first is that there may be no way to exclude free-riders, which limits private returns. The second is that, for a group of individuals with substantial bargaining power in the political market, creating and maintaining property rights may outweigh the benefits of more efficient institutions (NORTH, 1973, pp. 11-12).

Figure 4 – Micro-level concepts of institutions



Source: Elaborated by the authors based on North (1981, 1990, and 2005).

History, according to North, has shown that capitalism and democracy tend to be associated with institutional arrangements that promote greater adaptive efficiency. However, he cautions that a free market alone is not sufficient for an efficient market; it is crucial to have an institutional framework that reduces transaction costs and evolves over time so as not to become an obstacle (NORTH, 2005, p. 122).

For North (2005, p. 56), although democracy is the system that fosters the highest adaptive efficiency—since, following Hayek, it emerges from an independent and spontaneous process that allows a broad formation of expectations within society—empirical research has shown little correlation between democracy and economic growth. Thus, decentralized markets and democracy are important but not sufficient drivers of economic development, as institutions must act as mechanisms that foster cooperation among individuals and reduce transaction costs.

5.2 Cooperation Among Individuals

North (1990, p. 9) states that the focus of his research on institutions “is on the problem of human cooperation – specifically the cooperation that permits economies to capture the gains from trade that were the key to Adam Smith’s *Wealth of Nations*. The evolution of institutions that create an hospitable environment for cooperative solutions to complex exchange provides for economic growth.” This expression is relevant to the neoclassical paradigm, which emphasizes only competitive relationships within a context

of scarcity. However, an important aspect of life in complex societies is cooperation in nonrepeated games, guided by both formal and informal rules.

In this regard, North (1981, p. ix) suggests that the dilemma arising from cooperation escaped Smith's attention and was reproduced by his followers. As productive units become more specialized and increase their productivity—which, in the Smithian model, would be the cause of economic growth—they must operate increasingly in the market, cooperating with other organizations, which results in higher transaction costs. This occurs because the greater an individual's productive specialization, the higher the measurement costs when purchasing goods outside their field of expertise. While specialization leads to productivity gains, it also produces greater “friction” in market operations, thereby increasing the importance of institutions within complex productive arrangements.

According to North, even within the framework of neoclassical game theory, in small communities with little labor specialization and in which exchanges are repeated, the incentive for dishonesty is low, since the punishment for deviation spreads over several periods, and individuals' proximity makes the possibility of retaliation or even violence more likely. In such settings, even the figure of a third party responsible for enforcement—the State—may become unnecessary, as agreements are guaranteed by the social network itself, within which informal constraints exert significant influence.

As human clusters expanded, the increase in productive specialization—combined with the growing distance between individuals and the fact that exchanges were no longer necessarily repeated—generated increasingly greater gains from opportunistic behavior. In this context, the emergence of a third party, such as the State, became essential as a guarantor of agreements that were now based predominantly on formal rules.

In such complex societies, what North (1990, p. 33), referring to Schofield, calls “The fundamental theoretical problem underlying the question of cooperation” arises—that is, how individuals acquire knowledge about other agents' preferences and their likely behavior. North suggests that formal institutions, guaranteed by a coercive State, have historically been the solution to this problem. However, it would be inaccurate to claim that they are sufficient, since, in most cases, state power has proven detrimental to economic growth. Building on this reasoning, North reflects on a central question: what is the minimum condition an agent requires to cooperate?

According to North (1990, pp. 104-105), two elements are central for an institution to ensure cooperation among organizations. (i) “it is necessary to form a communications mechanism that provides the information necessary to know when punishment is required”; and (ii) institutions must offer appropriate incentives to those responsible for enforcing penalties, so that the returns from proper enforcement exceed the gains from misconduct.

5.3 Transaction Costs

According to North (1990, p. 133), in the 1930s Ronald Coase introduced the idea of transaction costs, thereby helping to explain the existence of the firm. Coase argued that

firms face costs arising not only from production, but also from the need to acquire information in order to operate in the market. Thus, corporations aim to minimize such costs by deciding whether to specialize or to pursue vertical integration. Coase demonstrated how costly it is to transact outside the neoclassical framework. Therefore, institutions play a crucial role, as they influence the cost of operating in the market.

Building on this approach, but incorporating elements developed by Williamson, North (1990, p. 53) observes, regarding transaction costs, that: “The costliness of information is the key to the costs of transacting, which consist of the costs of measuring the valuable attributes of what is being exchanged and the costs of protecting rights and policing and enforcing agreements. These measurement and enforcement costs are the sources of social, political, and economic institutions.”

Transaction costs, in turn, together with transformation costs, make up total production costs. According to North (1990, p. 55), transformation costs consist of the input—land, labor, and capital—involved in the physical transformation of a good, whereas transaction costs refer to “transacting – defining, protecting, and enforcing the property rights to goods.”

In addition, there is a measurement cost, which arises from the difficulty of obtaining information about the specific properties of a good in an exchange. Since acquiring information is costly, agents must expend resources to more accurately determine what they are trading; and because such precision is unfeasible on a large scale, individuals rely on other signaling mechanisms—such as reputation—as proxies for decision-making.

The impossibility of measuring all attributes in an exchange allows for opportunistic behavior by one of the parties, which makes the enforcement of commercial agreements a central element of transaction costs. Therefore, enforcement refers to the resources devoted to monitoring and ensuring compliance with such agreements. In primitive societies, a dense social network ensured that the gains from opportunism—and, consequently, enforcement costs—remained low; however, in complex societies, this was no longer the case, giving rise to an impartial third party responsible for guaranteeing proper compliance with agreements—generally, the State. According to North (1990, p. 61), “But one cannot take enforcement for granted. It is (and always has been) the critical obstacle to increasing specialization and division of labor.” Uncertainty regarding the effectiveness of contract enforcement induces agents to include a risk premium, which, in turn, raises transaction costs.

Furthermore, according to North (1990, p. 99), enforcement is generally imperfect for two reasons: (i) because of measurement costs and the multiple margins that constitute the contract performance, since even for the third party it is difficult to assess all the rights transferred in a commercial transaction, as well as whether there has been a breach by either party; and (ii) because enforcement agents have their own utility functions, which influence outcomes.

Transaction costs are spread throughout almost all other concepts in Douglass North's theoretical framework. Informal constraints and ideology (such as individual honesty) act in a complementary way to the enforcement structure, thus affecting

transaction costs and the efficiency of exchanges. In addition, uncertainty affects measurement and enforcement, so that when institutions reduce uncertainty in the economic world, they also reduce transaction costs and, consequently, facilitate cooperation among individuals. Technology is also related to transaction costs, which in turn link these costs to institutional and economic change.

5.4 The Process of Institutional and Economic Change

North's perception of the causes of institutional change and persistence evolved over time. In his 1973 work, for instance, his explanation of institutional change relied primarily on shifts in the relative prices of land and labor. In the fourteenth century, the bubonic plague increased the bargaining power of serfs relative to feudal lords—a demographic change that enabled the emergence of institutions more conducive to economic development, such as private property in land.

In his 1981 writings, North still considered the possibility of nonincremental institutional changes within the neoclassical model of the State, but he warned that the presence of free-riders served as a stabilizing force, as it made collective action more difficult. Moreover, he suggested that, given the collective action problem, institutional change was more likely to result from the actions of the ruler than from parliamentarians, and that revolutions tended to be “palace revolutions,” carried out by other rulers or small groups.

In his 1990 work, North describes the process of institutional change by noting that shifts in relative prices make it advantageous for one of the parties to renegotiate existing contracts. During this renegotiation, it may become necessary to restructure rules at a higher level—such as laws or norms of conduct—which, over time, may weaken and eventually be replaced or disregarded. Another source of institutional change derives from those who control the State and seek to create formal constraints that alter routine behavior. Given an arbitrary change in formal rules and heavy investment in enforcement, customs gradually adjust until they become the automatic behavior of individuals.

In his 2005 work, North emphasizes the influence of changes in the stock of knowledge as a complement to relative prices in driving institutional change. He proposes that the interaction between institutions and organizations, within an environment of competition and scarce resources, is central to the process of institutional change. Competition leads to continuous investment in skills and knowledge, and this accumulation shapes agents' perceptions of opportunities and options, resulting in incremental institutional change. Economies of scope, complementarities, and network externalities reinforce this process, making institutional change incremental and path dependent.

The transformations in agents' perceptions (mental constructs) of the world change as repeated interactions with reality generate feedback, prompting incremental corrections to individuals' mental models and giving rise to new interpretations of the whole. As reality itself is in constant flux (non-ergodicity), our perceptions are often mistaken, perpetuating an endless process of transformation.

Given the mutable nature of institutions and their influence on the economy, it becomes evident that institutional change and its subsidiary causes—shifts in relative prices and in the stock of knowledge—constitute the foundation of economic change. As emphasized earlier, economic change represents a broader dimension that encompasses and surpasses what we call economic development, since it concerns structural transformations in the economy resulting from incremental institutional change. Because institutions evolve in a state of “blind flight,” the outcomes of their evolution are unpredictable and may even result in reduced economic efficiency.

In this context, what kinds of institutional transformations bring about economic development? According to North (2005, p. 135), history shows that institutional changes promoting the liberalization of individuals from collective constraints have fostered economic development—for instance, the establishment of private property in land. This occurs because “individualist” institutions align the social rate of return more closely with the private rate of return, encouraging productive activities and investment in technological advancement over redistributive arrangements.

Overall, North (2005, p. 158) suggests that a country seeking development should aim to create a system of institutions that generates low transaction costs and enables the expansion of impersonal exchanges and labor specialization. Since informal constraints vary across societies, formal rules should not be “copied” from those that succeeded in the West, but in the long run, they tend to converge toward similar forms.

6. Reference for the Process of Conceptual Incorporation in Douglass North's Work

Across North's body of work, one can observe a process of conceptual construction and transformation that integrates orthodox and heterodox theoretical and analytical categories into a unified explanatory framework aimed at demonstrating that institutions are the primary drivers of economic development. Drawing on his edited works from 1973, 1981, 1990, and 2005—which represent the core of North's thought—it is possible to trace how his theoretical framework underwent successive mutations and incorporations.

In North and Thomas (1973), the authors' main concern is to explain the divergent economic outcomes of Spain and England between 900 and 1700 A.D., as a function of their institutional transformations. In this approach (considered neoclassical) the emphasis lies on how changes in the relative prices of land and labor were associated with the emergence of more specific property rights in medieval England, which would explain its superior economic development during that period.

However, it is evident that this approach presented a serious limitation: it failed to explain why harmful institutions persist over time. In North (1981), the author seeks to address this issue by developing a theory of the State that explains why, in many contexts, it is in the ruler's interest to maintain formal institutions that are detrimental to economic development yet beneficial to their own interests. Another conceptual shift involves the

abandonment of the term economic development in favor of a broader conception—economic change—particularly concerning the relationship between institutions and economic performance.

In North (1981), the focus lies almost exclusively on formal constraints, making nonincremental institutional changes possible. However, beginning with North (1990), the relative weight assigned to informal constraints increases, and the author dismisses the possibility of abrupt institutional change. As informal constraints interact with a given set of preexisting formal rules, morality and culture become elements of institutional stability. What North calls path dependence lies at the core of institutional stability, highlighting history's central role in shaping national development paths.

Table 1 – Main aspects highlighted and concepts added throughout North's works

Book (Year)	Key Aspects Highlighted	Argument	Concepts Added
The Rise of Western World (1973)	Relative prices; institutional persistence	Institutions as an explanation for economic divergence (900–1700)	Property rights; institutions; transaction costs; government
Structure and Change in Economic History (1981)	Theory of the State; why inefficient institutions endure	Relationship between structure and economic performance; nonincremental institutional change	State; neoclassical model of the State (monarchy)
Institutions, Institutional Change and Economic Performance (1990)	Informal constraints; institutional stability	Interaction between informal and formal institutions makes “history matter” (path dependence)	Path dependence; lock-in; rationality; adaptive efficiency; culture
Understanding the Process of Economic Change (2005)	How informal institutions are formed; culture	The nature of social change and the ways in which human behavior and understanding of change are shaped by culture	Belief systems; non-ergodicity; political market

Source: Prepared by the authors.

In North (2005), the role of informal institutions is further amplified, as the author addresses the thorny question of how informal institutions are generated and transmitted, developing a theory of culture. He also refines the discussion on uncertainty (already present in his earlier works) by linking Simon's procedural rationality, discussed in North

(1990), to the notion of non-ergodicity in the world, an argument that draws on Keynes and post-Keynesian thought.

Along this trajectory, North gradually refined his analytical framework over more than three decades, progressively incorporating new elements, particularly regarding informal constraints. He transitioned, step by step, from a predominantly neoclassical approach focused on relative prices to explanations that incorporate concepts such as procedural rationality and non-ergodicity, while assigning great importance to the stock of knowledge as a driver of institutional change. The discussion presented in the preceding paragraphs is summarized in Table 1.

Another important aspect observed in the transformations of North's interpretive framework is the growing role of freedom in economic change. In North and Thomas (1973), institutions are emphasized for their capacity to reduce transaction costs and, consequently, to facilitate trade and Smithian productive specialization. Institutions were understood primarily in terms of their implications for allocative efficiency.

The 1990 formulation proposed by North highlights the central role of institutions mainly in terms of fostering greater adaptive efficiency, standing out as promoters of freedom—allowing agents to seek solutions to societal problems and to be rewarded if successful or punished if they fail. In North (2005), the importance of this process of “trial and error” in economic and social change is further reinforced when culture is taken into account, as it serves as the vehicle through which previously discovered solutions are transmitted over time.

7. The Shift in North, Wallis, and Weingast (2009)

In what became his final publication, North, Wallis, and Weingast (NWW) (2009) changed the focus developed by North in his earlier works—those we have considered part of a broader theoretical framework. NWW (2009) seek to explain patterns of social organization based on the concept of social orders, defined as follows:

“Social orders are characterized by the way societies craft institutions that support the existence of specific forms of human organization, the way societies limit or open access to those organizations, and through the incentives created by the pattern of organization” (NWW, p.1).

In modern societies, two types of social orders exist. The first is the Limited Access Order (LAO), or Natural State, understood as the social structure in which:

“personal relationships, who one is and who one knows, form the basis for social organization and constitute the arena for individual interaction, particularly personal relationships among powerful individuals. Natural states limit the ability of individuals to form organizations” (NWW, p.2).

In contrast, there are the Open Access Orders (OAO), in which:

“personal relations still matter, but impersonal categories of individuals, often called citizens, interact over wide areas of social behavior with no need to be cognizant of the individual identity of their partners. Identity, which in natural states is inherently personal, becomes defined as a set of impersonal characteristics in open access orders. The ability to form organizations that larger societies is open to everyone who meets a set of minimal and impersonal criteria” (NWW, p.2).

In LAO, the control of violence is achieved through an agreement among elites, and there is no rule of law. Such an agreement is only possible due to the distribution of economic rents within the country—that is, economic activity is controlled by dominant groups engage in rent-seeking through various means. Because elites may perceive themselves as “unjustly treated” in the distribution of rents or may face exogenous shocks, dominant groups remain ready for armed conflict. As a result, in the LAO, the frequency of wars and coups is considerably higher. In the Natural State, organizations tend to lack impersonality, and the functioning of justice is subject to personal relationships.

According to NWW (2009), in the LAO there is a dual balance between politics and economics—that is, the equilibrium between political and economic power is mutually reinforcing. The authors argue that approximately 85% of the world’s population lives in Natural States—countries that are weakly democratic and characterized by low economic growth.

In OAO, according to NWW (2009), the control of violence is exercised through institutions. Violence is, in Weberian terms, the legitimate monopoly of the State, to which the military forces are fully subordinated. There is rule of law, and organizations are characterized by impersonality. In the OAO, Schumpeterian creative destruction prevails, which also generates economic rents—but these are quickly eroded due to the free entry of competitors into the market. As in the LAO, there is a dual balance in the OAO: political freedom supports economic freedom, and vice versa. The 15% of the world’s population living under OAOs are wealthier and enjoy greater political rights.

According to NWW (2009), the OAO is rare in human history, having appeared for the first time around the year 1800, whereas the LAO dates back to the first social revolution¹—approximately 10,000 years ago. The transition from an LAO to an OAO occurs when three conditions are met: (i) rule of law for the elites; (ii) the emergence of impersonal, “perpetually lived” organizations such as the State; and (iii) political control over the military.

It becomes evident that, after North (2005)—although institutions, their formation, and their effects on society remain the central theme—the focus and conceptual framework

¹The first social revolution followed the advent of agriculture and the rise of sedentary societies—a process analyzed in detail by North (1981).

shift in NWW (2009). For this reason, that work is not incorporated into what we consider to be North's broader theoretical framework, presented in Sections 2 through 7 of this article.

8. Final Considerations

North's theoretical and analytical contributions stand among the key explanatory milestones for understanding the conditions that foster development. Throughout his academic trajectory, he progressively incorporated heterodox categories into the neoclassical theoretical-analytical framework in order to explain institutional change and the economic performance of nations. Moreover, he repeatedly pointed out the limitations of the neoclassical approach in addressing the issue of development—not by seeking to sever its ties with orthodoxy, but by introducing fundamental adjustments to accommodate problematic phenomena.

A reading of North's body of work reveals an evolutionary and conceptually transformative trajectory aimed at better explaining the multiple dimensions of development. Over the course of more than three decades—and beginning from the fundamental insight that institutions explain the divergent economic trajectories of nations—North progressively added new dimensions to his theoretical construct, such as: a theory of the State (North, 1981); the relationship between formal and informal institutions, particularly regarding path dependence (North, 1990); and a theory of culture and knowledge (North, 2005).

The narrative developed throughout his work demonstrates how institutions are composed of both formal and informal constraints. Informal constraints encompass morality, taboos, and customs, which arise from and are transmitted across generations through culture, while formal constraints result from the bargaining power and ideology of agents in political markets—factors that are decisive in the functioning of the State. Such rules are the outcome of how agents perceive reality and of the historical experiences to which societies have been subjected over time.

Institutions are self-imposed constraints created by human beings with the purpose of reducing uncertainty in their daily lives. Uncertainty, in turn, stems from the limited capacity to acquire and process information (bounded rationality), as well as from the fact that reality is subject to non-probabilistic novelty (non-ergodicity). It should also be noted that current institutions are the result of the limitations imposed on the set of choices by past decisions, and they will themselves constitute constraints on future possibilities—hence, “history matters,” a phenomenon North refers to as path dependence.

Thus, the more institutions foster adaptive efficiency (both economic and political), promote cooperation among individuals, and reduce transaction costs, the more effective they will be. Adaptive efficiency refers to the incentives that encourage a greater number of agents to propose solutions to emerging social problems, rewarding those that prove successful and discarding ineffective ones. Cooperation among individuals enables greater productive specialization—a view that, since Smith, has been regarded as one of the key

engines of productivity gains and economic growth. Finally, transaction costs represent the “friction” that hampers the functioning of markets: the lower these frictions, the more people can rely on markets and productive specialization.

From these readings and analyses, one may derive from North's contribution that institutions fostering individual freedom, production, and technological development have historically been those most conducive to economic development. In this sense, institutions that grant individuals the autonomy to find solutions to their own problems appear to lie at the origin of innovation and technological progress. Thus, providing freedom for people to express themselves politically and to promote incremental adjustments to formal rules also represents a mechanism for society's adaptation to a changing world.

Another important insight drawn from North's work concerns the moral dimension of freedom. Respect for others—which implies aversion to deceit and opportunism—reduces transaction costs and fosters cooperation among individuals. Respect for religious and intellectual freedom facilitates the emergence of new ways of acting within community life and enables more efficient social arrangements to arise from an adaptive selection process.

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