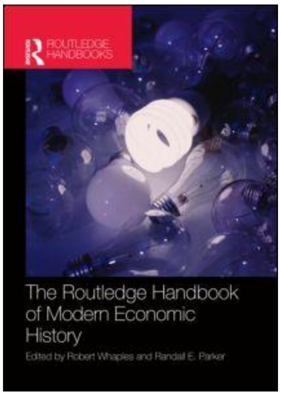

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THE NEW INSTITUTIONAL ECONOMICS AND ECONOMIC HISTORY

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Two claims that are central to the research agenda of the New Institutional Economics (NIE) are that institutions affect economic performance and that both the causes and effects of institutions can be analyzed using economic concepts (North 1990). According to North (1990: 3), "institutions are the rules of the game in a society or, more formally, the humanly devised constraints that shape human interaction." Ostrom (2005: 3) describes institutions as "the prescriptions that humans use to organize all forms of repetitive and structured interactions, including those within families, neighborhoods, markets, firms, sports leagues, churches, private associations, and governments at all scales." Formal rules, which "say what individuals must, must not, may, can, and cannot do," and that are enforced by an "authoritative agency" are institutions (Commons [1924] 1995: 138). But so are informal norms based on custom and tradition, which can also shape economic behavior. This chapter provides an overview of several levels of institutional analysis, ranging from informal norms to specific rules, discusses the concepts of institutional efficiency and change, and concludes with some questions for future research.

The NIE draws on several research traditions in economics, including Neoclassical Economics (Eggertsson 1990), Old Institutional Economics (Rutherford 1994), and Austrian Economics (Langlois 1986). Economic historians have played a central role in generating both the theory and the empirical work of the NIE. (See Alston *et al.* (1996) for a theoretical overview and examples of these contributions.) While the NIE is in part the application of neoclassical theory to the study of institutions, it expands on neoclassical theory by introducing new conceptual tools, such as transaction costs and property rights. The scope of the NIE's analysis is very broad, and it draws from and influences other disciplines, such as political science, history, psychology, sociology, and anthropology. The NIE uses many methods to understand institutions, including mathematical and literary theory (De Alessi 1990), econometric analysis (Klein 2008), and case studies (Alston 2008a).

The NIE draws a distinction between institutions and organizations. Institutions are the "rules of the game," and organizations consist of individuals who interact repeatedly in linked situations. Organizations operate within an institutional environment and have their own institutions that govern their members' behavior. The United Nations, a central government, a stock exchange, a local pizza shop, and a college club are all organizations, and they are all objects of analysis of the NIE. According to North *et al.* (2009: 15), "Organizations consist of specific groups of individuals pursuing a mix of common and individual goals through partially coordinated behavior." Ostrom (2005: 57, 32) models organizations as being "composed of one or more (usually more) action situations," which occur when "two or more individuals are faced with a set of potential actions that jointly produce outcomes."

Williamson (2000) provides a four-level framework for categorizing social phenomena, which is used to organize the material in the rest of this chapter. He admits that additional levels could be added, suggesting a fifth level, Level 0: "Mechanisms of the mind", which captures the process by which our minds evolve. Evolutionary psychologists believe that psychological adaptions evolved in a similar way to physiological adaptations "because they solved problems related to survival and reproduction" (Confer *et al.* 2010). Level 1: "Embeddedness" includes the informal norms, customs, and traditions that are part of the cultural heritage of a society and take hundreds or even thousands of years to change. Level 2: The "institutional environment" includes basic human rights, constitutions, and rules concerning the allocation and enforcement of property rights. The rules at this level reflect the Level 1 institutions, but change more quickly. Level 3: The "governance" of contractual relations determines the choice and structure of the organization within which interactions take place. Level 3 rules are influenced by Level 2 rules, and can change within 1 to 10 years. Level 4: "Resource allocation and employment" decisions made continuously by market participants are made at the margin and determine the proper input and output levels. Since Level 4 decisions are the key unit of analysis in Neoclassical Economics, this chapter does not address them explicitly. In practice, when studying a particular institution or organization, a partial analysis must be done with other institutional arrangements held constant. The NIE has focused mainly on Level 2 and Level 3 analysis, and the bulk of this chapter is devoted to those two levels.

Other authors offer alternative frameworks for understanding institutions. Similar to Williamson, Ostrom (2005) describes four levels of analysis and outcomes: metaconstitutional situations; constitutional situations; collective-choice situations; and operational situations. Alston (2008b) maps how formal and informal institutions jointly determine property rights, which in turn affect transaction costs, production costs, and, ultimately, economic performance. Eggertsson (1990) uses three levels of analysis to organize the study of institutions: the structure of property rights, the organization of exchange, and the social and political rules. In Williamson's (2000) framework, norms affect formal rules, which affect governance structures, which affect resource allocation decisions, but there are feedback loops between all of these levels that lead to significant endogeneity. While the first two levels, the mechanisms of the mind and embeddedness, are generally spontaneous in nature, organizations are central to the analysis of the institutional environment, governance, and resource allocation and employment.

Mechanisms of the mind

A basic model of behavior in Neoclassical Economics assumes that individuals' mechanisms of the mind are those of rational egoists. They possess complete information, have "complete and consistent" valuations of outcomes that are monotonic transformations of external payoffs, and choose actions that "maximize material net benefits" given the actions of others (Ostrom 2005: 101). Modeling humans as rational egoists makes sense when examining markets that are close to being perfectly competitive; however, it is not appropriate to model humans as rational egoists in all settings (Arrow 1986; North 2005; Ostrom 2005). For instance, in situations where information costs are high, models based on bounded rationality, in which actors are assumed to be "intendedly rational but limitedly so," are more appropriate (Simon 1957: xxiv). A long tradition in Old Institutional and Austrian Economics posits that decision makers use habits and routines to compensate for their difficulties in processing information (Clark 1918; Hayek 1960), and the NIE draws from these traditions. Another assumption of human behavior is that some humans do not solely maximize material net benefits, but value "trust, reciprocity, and equity very highly" (Ostrom 2005: 131). These "conditional cooperators" can be modeled as receiving non-material benefits from cooperating that are not functions of external payoffs. Achieving a cooperative outcome, however, requires that other players also value cooperation and that the institutional environment encourages cooperation. Without the proper institutions in place, even those actors with a preference for cooperation will act egotistically (Ostrom 2005).

Embeddedness

The embedded culture of a society affects how people learn and process information as well as what kinds of formal institutions and organizations are feasible. North (2005: 71) argues that "Humans start out with genetic features which provide the initial architecture of the mind; the mind interacts with the cultural heritage and the experiences of individuals to shape learning." Greif (1994: 915) defines cultural beliefs as "the ideas and thoughts common to several individuals that govern interaction … and differ from knowledge in that they are not empirically discovered or analytically proved." Ostrom (2005: 106) states, "When we indicate that people share a culture, it is a shorthand way of indicating that the wide diversity of mental models that individuals have invented has been reduced to a smaller set within those sharing the culture." The interpretation of culture as limiting the menu of available mental models is developed in Denzau and North (1994) and North (2005).

If culture limits the set of mental models with which people interpret their world, then culture will affect the range of possible legal and contractual outcomes. This is the argument made by Greif (1994, 2006) in his comparison of the eleventh-century Maghribi and Genoese traders. Because of their collectivist cultural beliefs, the Maghribi adopted "horizontal economic interactions" and group sanctions and enforcement, while the individualist culture of Genoa led to a "vertical social structure" with legal and political sanctions and enforcement (Greif 1994: 942). Alston *et al.* (2009) argue that shared cultural norms between hacendados and workers in Yucatán, Mexico, led to unique contractual practices that cannot be understood outside of the specific political and cultural context. On a broader scale, statistical cross-country analyses of culture often rely on measures such as the World Values Survey. Guiso *et al.* (2003) show that religion affects economic attitudes such as trust, thriftiness, and preferences for redistribution, and Knack and Keefer (1997) show that differences in the culture of trust across countries affect economic performance.

The institutional environment

The institutional environment defines the formal rules of society, such as constitutions, statutory law, and common law. While neoclassical theory traditionally ignores legal rules or assumes that they are structured in a way that allows costless transacting, laws and their enforcement are important because they create incentives for organizing economic activity (North 1990). Coase (1960) provides the NIE with the concepts needed to understand the conditions under which the legal rule affects economic efficiency. Using what has become a universal example in law and economics classes, he asks whether it matters if the state assigns property rights to farmers who are planting crops, or to neighboring ranchers whose cattle tend to wander and trample those crops. He argues that, in a frictionless market, farmers and ranchers would "agree themselves around" the property rights rule to achieve an efficient and invariant outcome. For instance, if farmers have the legal right to be free from wandering cattle, but total wealth is highest if farmers build a fence to exclude cattle, then a "Coasian" bargain would be struck in which ranchers pay farmers to build a fence. From an efficiency perspective, it would not matter how property rights were defined, as long as all of the assumptions required for achieving a frictionless market were met. The most important reason why markets are not frictionless is because of transaction costs, the costs of searching for trading partners, bargaining to an agreement, and policing and enforcing that bargain. Coase's insight has been labeled "the Coase Theorem," and, due to the ubiquity of transaction costs, the Coase Theorem has an important corollary: in the presence of transaction costs, institutional and organizational choices affect economic outcomes.

The insights of the Coase Theorem have been used to understand the formation and importance of property rights (Demsetz 1967; Barzel 1989; Libecap 1989). Property rights are the rights to use, derive income, exclude others, and transfer property. Rules concerning property are central to the institutional environment, and the state or some other organization must define, interpret, and enforce these rules. Since frictionless markets and well-defined property rights lead to the efficient allocation of society's resources, a policy prescription drawn from Coase's work is that the state should reduce transaction costs and have clear rules regarding the assignment of property rights in order to increase social wealth.

Examples of the importance of property rights abound in the economic history literature. In their seminal article on England's Glorious Revolution of 1688, North and Weingast (1989) argue that the balance of power between parliament and the monarchy enhanced property rights and generated subsequent economic growth. In their study of property rights in the Brazilian Amazon, Alston *et al.* (1999) find that having clearly defined property rights induces farmers to make greater investments in land, and that having better access to markets induces farmers to seek clearly defined rights. They also find that unclear property rights combined with poorly designed government policies increase the amount of squatting and the use of violence to settle competing claims to property. Libecap (1989) and Higgs (1982) provide examples of how poorly designed regulations allocate property rights to oil fields and salmon fisheries in a way that leads to inefficient modes of production. Property rights need not be defined and enforced by the state. As shown by Umbeck (1977) for the early years of the California gold rush and Ellickson (1989) for the whaling industry in the eighteenth and nineteenth centuries, property rights can arise out of informal norms and in the absence of formal enforcement mechanisms.

The institutions of governance

The institutions of governance operate at a level below the institutional environment and are the specific rules governing how economic activity is organized. The central question that Coase (1937: 388) asks is, "if production is regulated by price movements … why is there any organization?" As noted earlier, Coase's answer is that search, bargaining, and enforcement costs introduce friction into the price mechanism. Entrepreneurs will choose the organizational form that minimizes the sum of production and transacting costs. While economic activity can be categorized as taking place either within the hierarchy of a firm or within a pure market setting, in practice, most activity takes place within a hybrid setting that incorporates elements of both.

The NIE replaces the assumptions that humans can process unlimited amounts of information and that the distribution of possible future outcomes is knowable with Simon's (1957) assumption that humans are boundedly rational and Knight's (1921) assumption that we live in a world of uncertainty. In this framework, the future is murky and complex contracts are "invariably incomplete" (Williamson 1985: 178). Klein *et al.* (1978) and Williamson (1971, 1985) build on

Coase's work to develop a theory of the firm that focuses on the enforcement costs of contracting and is founded on the concepts of bounded rationality, uncertainty, ex post opportunism, and specific assets. This theory analyzes the conditions under which stages of production are internalized versus outsourced: the classic "make or buy" decision. Williamson (1985) posits that interactions between market participants vary in their frequency and in the specificity of assets involved in the transaction. While a large number of market participants may interact during the initial stages of contracting, a "fundamental transformation" occurs after a significant amount has been invested in specific assets, causing the relationship between market participants to become bilateral. Once this transformation in the relationship takes place, a party that has devoted significant resources investing in assets specific to the relationship is vulnerable to opportunistic behavior. The greater the investment in a specific asset, the greater the opportunity to appropriate quasi rents, and the greater the cost of pure market transactions. Market transacting will occur when asset specificity is low, but, as asset specificity rises, alternative governance structures are needed, such as bilateral, trilateral, and unified contracting. Joskow (1987) tests the importance of relationship-specific investments in the U.S. coal market, using access to transportation and differences in regional variation in coal quality as measures of specificity. He finds that parties are more likely to rely on long-term contracting when investments are more specific, thereby reducing their exposure to opportunism and hold up.

While theories of transaction costs associated with asset specificity provide important insights into organizational choice, the institutions of governance are shaped by many other transaction costs. (See Garrouste and Saussier [2008] and Ménard [2008] for overviews and comparisons of alternative theories of the firm.) Alston and Higgs (1982) show that transaction costs associated with monitoring assets and worker effort explain the choice of a wage, sharecropping, or tenant contract on cotton plantations in the post-bellum South. Staten and Umbeck (1982) show that changes in the rules governing medical treatment encouraged higher levels of shirking among air traffic controllers in the 1970s. Olmstead and Rhode (2004) describe how asymmetric information in the early twentieth-century cattle market led some firms to organize trade in a way that accelerated the spread of bovine tuberculosis. They argue that this market failure could only be resolved through regulation of cattle markets at the national level. These three examples show the endogeneity of rules, incentives, and transaction costs. While Alston and Higgs (1982) show that the institutions of governance minimize the sum of production and transaction costs, Staten and Umbeck (1982) show that changes in rules can increase transaction costs and incentivize workers to shirk. Finally, Olmstead and Rhode (2004) show that transaction costs can be so high that restructuring the institutional environment is necessary.

Institutional efficiency and change

The phrases "inefficient institutions" and "efficient institutions" are often used in the NIE in the attempt to prescribe how to move from the former to the latter. One commonly used definition of efficiency is Pareto optimality. An allocation of resources is said to be Pareto optimal if there is no way to make one person better off without making someone else worse off. Pareto-improving trades happen constantly in the marketplace, but Pareto-improving institutional change is harder to achieve because institutional change creates winners and losers. In the presence of transaction costs, the winners may have a difficult time paying off the losers. A more general definition of efficient institutions is that they maximize economic growth and aggregate welfare. North and Thomas (1973), Alchian and Demsetz (1973), and Posner (1977) view institutions as either being efficient or on a path towards efficiency, but this view has been critiqued by Field (1981: 184) as being too functionalist in its assumption that market forces will cause the optimal set of rules to be chosen from a "book of organization blueprints." The introduction of transaction costs makes evaluating the efficiency of any institutional arrangement very difficult. Commenting on property rights research, Ostrom (1990: 216) argues that it is common for institutions to be "rejected as inefficient, without examining how these institutions may help them acquire information, reduce monitoring costs, and equitably allocate appropriation rights and provision duties."

North (2005) abandons his earlier views on the progression of institutional change towards efficient institutions and instead argues that the institutional structure of society is largely non-ergodic: it shifts over time in unpredictable ways in response to human action. David (1985) and Arthur (1988) develop a theory of path dependency that initially was applied to technological change, the most famous example of which is the persistence of the QWERTY keyboard layout. (See Liebowitz and Margolis (1995) for a critique of David's QWERTY story and an alternative framework for categorizing path dependence.) David (1985: 332) defines a sequence of events as being path dependent when "influences upon the eventual outcome can be exerted by temporally remote events, including happenings dominated by chance elements rather than systematic forces." North (1990) combines the path-dependence literature with a Coasian transaction cost analysis to argue that institutional lock-in can occur on many paths, including those that lead to "consistently poor performance." As an example of this type of analysis, Engerman and Sokoloff (2000) argue that path dependence and lock-in can explain differences in the performance of economies across the Americas. In their framework, initial factor endowments during the colonial period influenced the distribution of political and economic power, differences in power affected whether rules, such as those governing land policy and voting rights, were designed to maintain the power of the elite or encourage growth, and lock-in caused these remote differences to persist and affect economic outcomes to the present day.

Alston (2008b) provides a framework for analyzing change and persistence in the formal legal rules of society, distinguishing between the demand for and the supply of legal institutions. The demand for rules comes from the citizenry in general and from special interests. Formal rules are supplied by the government. A wide array of rules governs political organizations and therefore affects the path of institutional change. The structure of the organizations and the preferences of the individuals demanding and supplying change determines what types of rules will be passed and how they will be applied and enforced. Voters have little incentive to become aware of most issues facing government because the effects of their votes are small, as are the impacts of policies on individual voters (Downs 1957; Tullock 1967). Instead, special interests are more likely to influence the political process (Olson 1965). Many variables influence the supply side of government and the types of institutional change that occurs. These variables include whether the government is presidential or parliamentary (Carey 2008), federalist or unitary (Weingast 2008), and bicameral or unicameral (Cutrone and McCarty 2006); what rules govern the bureaucracy (McCubbins *et al.* 1987), the committee structure of the legislature (Shepsle and Weingast 1987), and the membership of the legislature (Alston *et al.* 2006); and how political parties are organized (Cox and McCubbins 1993). In times of crisis, the supply and demand for formal institutional change can increase, leading to an increase in the scale and scope of government. While the size of government generally falls after the crisis has passed, it does not fall back to its pre-crisis growth path, leading to what Higgs (1987) describes as a ratchet effect.

Recent work in the NIE continues to examine the causes and consequences of changes to the institutional environment, particularly the transition to democracy. North *et al.* (2009) provide a framework for understanding the move from a natural state to an open access order. Natural states limit access to valuable resources and activities to a select group of elite members, both to enrich that elite and to control violence. An open access order controls violence through a consolidated military and allows organizations to be formed impersonally, without any direct link to an elite coalition. The key question posed by North *et al.* is how natural states evolve into open access orders. Their answer involves satisfying three "doorstep conditions." First, elites must develop a rule of law among themselves that shares rights equally among elites. Second, public and private organizations must exist that persist beyond the life span of individual elites. Finally, the political system must control the military and the use of violence. Acemoglu and Robinson (2006) offer a formal model of the transition from authoritarian rule to democracy in which two groups, the elite and citizens, contend for political and economic power. The elite desire to extract resources from citizens, but fear that the continuation of elite rule may lead to violent revolution. In order to placate citizens, the elite grant them additional concessions and commit to continuing those concessions by switching to a democratic institutional environment. One question concerning this model is under what conditions the transition to democracy creates institutional lock-in and whether elites can regain *de facto* political and economic power in the future even after a transition to democracy.

Concluding remarks

While the idea that "institutions matter" has been accepted by many economists, there are still unanswered questions and much unexplored territory at all levels of Williamson's social analysis. The study of the causes and effects of informal institutions such as culture, norms, and beliefs is still in its early phase. The demand and supply of the formal institutional environment have been studied by economists and political scientists, but the process by which political institutions change and persist still requires much research. While the NIE includes many theories concerning the institutions of governance, these are often partial explanations and require additional integration. Finally, the NIE must refine its assumptions of human behavior and study the conditions under which those assumptions are most appropriate. These questions are only a few of the ones that will continue to make the NIE an exciting and important field of research in the future.

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