

The Role of Law in the New Institutional Economics

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ABSTRACT

To explain the role of law in the new institutional economics (NIE), we compare this approach with the economic analysis of law (EAL) of the 1970s when the NIE evolved. At that time the EAL was dominated by the “Chicago” or “market-based” approach that builds on the theory of perfect competition. Contracts are complete and Pareto efficient (allocative efficient). Ten years on, this approach was extended by informational economic models that are briefly touched upon here. After a few methodological considerations, the Article concentrates on the Williamsonian branch of NIE, i.e., the transaction cost approach (TCA). This theory argues that, in the real world of positive transaction costs, incomplete contracts can, at most, be efficient in a boundedly rational sense (“NIE-efficient”). The governance structure of contracts matters and becomes a bargaining point. Court ordering has to be complemented or substituted by private ordering. Attentive actors come to terms on a governance structure that protects them against *ex post* opportunistic maneuvers of their opponents. Generic governance structures are (according to Williamson) markets, hybrids, and hierarchies. Court ordering works best for market governance. In the case of hybrid modes (franchising, leasing, etc.), courts would mainly be supplanted by private ordering between the parties. As for hierarchies, courts would stay out of conflict resolution (fraud and conflict of interest excepted). While the objects of research in NIE and EAL remained different, the latter’s methodology appears to move closer to that of NIE.

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I. INTRODUCTORY REMARKS

To describe the role of law in NIE, it is useful to compare this field with its sibling, EAL. Both fields stem from early attempts to apply the methods of economic analysis not only to economic life proper but also to its institutional framework. Outstanding early contributors to this economic analysis of institutions are Coase, Alchian, Calabresi, Buchanan and Tullock, and Olson.¹ What became known as the NIE gained momentum by the work of Williamson—who introduced the term NIE²—and North and Thomas.³ The field of EAL originated at the University of Chicago Law School in its “Chicago approach” to legal issues.⁴ It was Posner (1972) who brought EAL—under this name—to the attention of the general legal academy.⁵

NIE is more general than EAL regarding both its object of research and its methodology. The special object of EAL—at least during the 1970s⁶—is the economic analysis of legal rules under the assumption of perfect law enforcement.⁷ In contrast, the special object of NIE is the economic analysis of organizational design⁸ of a

1. Ronald Coase, *The Nature of the Firm*, 4 *ECONOMICA* 386 (1937); Ronald Coase, *The Problem of Social Cost*, 3 *J.L. & ECON.* 1 (1960); Armen Alchian, *Some Economics of Property Rights*, 30 *IL POLITICO* 816 (1965); Guido Calabresi, *Some Thoughts on Risk Distribution and the Law of Torts*, 70 *YALE L.J.* 499 (1961); JAMES M. BUCHANAN & GORDON TULLOCK, *THE CALCULUS OF CONSENT* (1962); MANCUR OLSON, *THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS* (1965).

2. The term “New Institutional Economics” is used as a generic term by different authors for different combinations of the above mentioned and other fields; see Rudolf Richter, *The New Institutional Economics—Its Start, Its Meaning, Its Prospects*, 6 *EUR. BUS. ORGAN. L. REV.* 161–200 (2005).

3. DOUGLASS C. NORTH & ROBERT THOMAS, *THE RISE OF THE WESTERN WORLD: A NEW ECONOMIC HISTORY* (1973).

4. CENTO G. VELJANOVSKI, *OXFORD CENTRE FOR SOCIO-LEGAL STUD., BIBLIOGRAPHY TO LAW & ECONOMICS—CONTRACT ANALYSIS* (1979).

5. Stanford Encyclopedia of Philosophy, Legal Philosophy: The Economic Analysis of the Law, <http://plato.stanford.edu/entries/legal-econanalysis/>.

6. What Posner calls the “second generation of economic analysts of law.” Richard A. Posner, *A Review of Steven Shavell’s Foundations of Economic Analysis of the Law*, 44 *J. ECON. LIT.* 406 (2006).

7. “Formal constraints” or “court orderings” work perfectly. DOUGLASS C. NORTH, *INSTITUTIONS, INSTITUTIONAL CHANGE AND ECONOMIC PERFORMANCE* 46 (1990); OLIVER E. WILLIAMSON, *THE ECONOMIC INSTITUTIONS OF CAPITALISM* 29 (1985).

8. Oliver E. Williamson & Edward G. Ouchi, *The Market and Hierarchies Program of Research: Origins, Implications, Prospects*, in *ORGANIZATIONAL DESIGN* 352 (William Joyce

wider set of transactions, by assuming that legal enforcement is impeded or impossible. As far as their methodology is concerned, both EAL and NIE pay attention to positive transaction costs. However, while EAL—at least in its “Chicago approach”—assumes perfect individual rationality and perfect foresight,⁹ the NIE from its very beginnings proceeded in a more general fashion by taking account of the imperfections of individual rationality and limited foresight. In short, the NIE and EAL differ in their specific objects of research with the NIE applying a more general method than EAL, at least during those early years.

Both fields expanded and moved on considerably during the past thirty years, and so a complete comparison of the two approaches would go beyond the scope of this Article. This Article is restricted to a comparison of the two fields at their common period of origin. EAL was the precursor, NIE followed and criticized its methodology. That was certainly true for the Williamson branch of NIE on which this Article focuses.¹⁰ Williamson extended the Coasian criticism of the realism of the assumptions of neoclassical microeconomics by questioning the efficacy of court orderings. Due to transaction costs, legal arrangements are generally incomplete and would have to be complemented or substituted by forms of “private ordering”.¹¹ As a consequence, Williamsonian NIE blurs the crystal clear neoclassical theories of (early) EAL. Not surprisingly, Williamson was heavily criticized by Posner.¹²

The following is an attempt to explain the role of law in NIE as compared with what Posner would call “second generation” EAL.

& Andrew Van de Ven eds., 1991).

9. As understood by this author, *see* Richter, *supra* note 2, at 161–200.

10. That is the transaction cost approach (TCA), which considers issues of private law (contract law in particular) given an institutional framework; while the Northian branch of NIE, the new institutional economics of history, deals more with issues of law making and public law (changes of the institutional framework). *See* NORTH, *supra* note 7, at 230–37. For a more detailed description of the two branches, *see* Richter, *supra* note 2, at 161–200.

11. “. . . which entails self-help efforts by the immediate parties to a transaction to align incentives and craft governance structures that are better attuned to their exchange needs.” Oliver E. Williamson, *Transaction Cost Economics*, in HANDBOOK OF NEW INSTITUTIONAL ECONOMICS 43 (C. Menard & M.M. Shirley eds., 2005).

12. Williamson, *supra* note 7, *questioned in* Richard A. Posner, *The New Institutional Economics Meets Law and Economics*, 149 J. INSTITUTIONAL & THEORETICAL ECON. 73–87 (1993).

This Article starts with an outline of the basic idea of the seemingly clear “Chicago” or “market-based” approach¹³ of the EAL which dominated in the 1960s and 1970s, illustrated by a legal interpretation of the theory of perfect competition. To better understand Williamson’s criticism, the Article then briefly describes the basic ideas of mathematical contract theory. It is an attempt to model efficient contracting under transaction costs that started in the 1970s and was soon applied by economic analysts of law.¹⁴ A few methodological considerations then follow. The Article concludes with a summary and assessment of our remarks on the role of law in the new institutional economics.

II. ON THE BASIC IDEAS OF THE MARKET-BASED APPROACH TO THE ECONOMIC ANALYSIS OF LAW

The economic analysis of law deals with a positive and a normative problem: The effects of legal rules on individual behavior, and the social evaluation of these effects.¹⁵ As mentioned above, the assumed human behavior was that of perfect individual rationality, i.e., individuals possess consistent and stable preferences, and maximize their utility.¹⁶ The social evaluation of the effects of legal rules followed certain ideas of welfare economics. We shall first discuss the above-mentioned problems of EAL in the language of general equilibrium theory (information is perfect) and then of mathematical contract theory (information is imperfect).

A. The Institutional Framework of General Equilibrium Theory

Assume an economy consisting of a large number of perfectly rational individuals, each endowed with a well-defined preference

13. The latter term seems to have been introduced by Veljanovski. VELJANOVSKI, *supra* note 4.

14. See, e.g., Lucian A. Bebchuck, *Litigation and Settlement Under Imperfect Information*, 15 RAND J. ECON. 404–15 (1984).

15. Louis Kaplow & Steven M. Shavell, *Economic Analysis of Law*, in HANDBOOK OF PUBLIC ECONOMICS 1666 (A.J. Auerbach & M. Feldstein eds., 2002).

16. “The central claim is that the fundamental economic concepts, such as maximization, equilibrium, and efficiency are [understood to be] also fundamental to understanding and explaining the law.” ROBERT COOTER & THOMAS ULEN, *LAW AND ECONOMICS* 9 (1988).

order and a bundle of goods. Individuals know that by exchange they can improve their lot. Given zero transaction costs,¹⁷ they will bargain with each other until they reach a Pareto efficient exchange equilibrium, i.e., a state of the economy in which no one can improve his individual position without hurting someone else.¹⁸

This is not the place to survey general equilibrium theory (GET). We content ourselves with a brief description of its assumptions and hypotheses to illustrate some of the basic arguments of the market-based approach to EAL. Its attractiveness lies in its (seemingly) clear predictions and clear valuations of the impacts of law,¹⁹ i.e., changes in legal norms and judgments.

The institutional framework of GET can be interpreted as the order of a private ownership economy, i.e., an economy whose elementary constitutional rules are based on the principle of inviolability of individual property rights. This demands an elementary legal order, plus its enforcement mechanism, regulating the property rights of individuals according to the general principles of private property and the transfer of these rights by consent, according to the principle of freedom of contract.²⁰ The enforcement of property and contract rights is supplied by an imaginary state or government, which otherwise remains perfectly passive.²¹

Individual property rights are embodied in GET by the assumption that individuals have full ownership in their endowments before and after trade.²² In the zero-transaction-cost world, the definition and

17. Information, bargaining, contracting, monitoring, enforcement, etc. costs.

18. KENNETH J. ARROW, *GENERAL ECONOMIC EQUILIBRIUM: PURPOSE. ANALYTIC TECHNIQUE, COLLECTIVE CHOICE* 255 (1974). Note, however, that the concept of Pareto efficiency does not require general equilibrium, it is also applied to partial equilibria.

19. Cf. HORST EIDENMÜLLER, *EFFIZIENZ ALS RECHTSPRINZIP* 486 (1995).

20. Breaches of contracts or tortious acts are not an issue of general equilibrium theory (rational utility maximizers are in the zero transaction cost world by definition strictly law abiding people). Still, with some good will, one may use it to explain in neoclassical style the regulation of individual liability for contractual obligations and torts.

21. The classical rules demand that the state abstains from altering the personal wealth of its citizens and goes “not a step further than necessary to secure its citizens against themselves and foreign enemies; for no other final purpose should the State restrict their freedom.” WILHELM VON HUMBOLDT, *IDEEN ZU EINEM VERSUCH, DIE GRENZEN DER WIRKSAMKEIT DES STAATS ZU BESTIMMEN* (1792) (Phillip Reclam, Jr. ed., Reclam Publishing 1967).

22. That is, they have (1) the right to use up their resources physically (*ius utendi*), (2) the right to the income from them (*ius fruendi*), and (3) the power of management, including that of

protection of individual property rights are problem free, and so are external effects. This is what was argued by Coase, on the grounds that unlimited bargaining for rights (including the right to do something which has a harmful effect, such as the creation of smoke) will or may lead to a Pareto efficient general equilibrium.²³ In other words, under the assumption of zero transaction costs, Pareto efficiency of general equilibrium is independent of the regulation of legal liability for damages.

Contractual obligations play a central role in GET. They are based on purchasing agreements, and consist of voluntarily assumed obligations, such as the obligation of the seller of a commodity to deliver the appropriate merchandise to the purchaser at the agreed-upon time and location and the obligation of the buyer to pay the purchase price in timely fashion. GET describes both instantaneous as well as deferred exchange that involves the passage of time for its completion under otherwise given conditions. As for the latter, the future is involved and there are risks in the sense of the influence of other factors (hail, sunshine) on the contractual outcome. GET takes this into account by assuming that both the kinds of “other factors” and their statistical properties are known by everybody (e.g. hail with probability $\pi = 0.01$; not-hail $\pi = 0.99$)—and by extending the model in a manner that allows for the allocation of risk between contractual parties. Finally, GET can be used to describe all kinds of commercial contracts such as sales, lease, employment, loan, or insurance contracts.

In terms of efficiency and equity—general equilibrium under perfect competition is Pareto efficient but not necessarily socially fair. A “fair” distribution may require some redistribution of income. Since this is an issue of public law (the tax and transfer system) rather than of private law, representatives of EAL argue that,

alienation (ius abutendi). See F.H. LAWSON & BERNARD RUDDEN, *THE LAW OF PROPERTY* 6 (1982).

23. Caution is in place in accepting the proposition that unrestricted bargaining leads to Pareto efficiency. Ronald H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1–44; The Analysis and Evolution of Public Expenditure: The PPB system, U.S. Joint Economic Committee, 91st Cong. 59–73 (1969) (statement of Kenneth J. Arrow).

“efficiency generally should be the primary criterion for evaluating legal rules.”²⁴

For illustration, we’ll have a brief look at the ingenious, though quite strong, assumptions of the Arrow-Debreu model, the most exact version of GET.²⁵

Commodities are characterized not only by their physical nature and the date and location at which they are available, but also by uncertain events (“states of the world”) on the occurrence of which their agreed upon transfer is contingent.²⁶

Information of individuals is assumed to be complete in the sense that individuals possess “full information about the nature and consequences of their choice.”²⁷ That is, consumers are perfectly informed about all commodities (goods and services) that exist at any given time and location; in addition they know all possible states of the world and the probability of their occurrence,²⁸ and they are fully informed about all quoted and traded market prices.

Regarding individual behavior, individuals are assumed to act perfectly rationally in the sense that they maximize their individual utility, subject to their given endowments.²⁹ Their individual utility functions are based on stable, well-ordered preferences with respect to all possible consumption plans (bundles of commodities), and weighted by their individual state preferences (their attitude towards risk).

24. A. MITCHELL POLINSKY, AN INTRODUCTION TO LAW AND ECONOMICS 158 (3d ed. 2003). See also RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW ch. 1 (2d ed. 1977); COOTER & ULEN, *supra* note 16, at 51.

25. GERARD DEBREU, THEORY OF VALUE: AN AXIOMATIC ANALYSIS OF ECONOMIC EQUILIBRIUM (1959).

26. *Id.* at 28, 98. For instance: I purchase x bushels of wheat to be delivered here, one year from now, payable today, on the condition that my next year’s crop has been destroyed by hail (i.e., the purchase of hail insurance). Individuals have full knowledge of all possible events (hail, drought, normal weather) and their probability distributions at each particular location etc.

27. COOTER & ULEN, *supra* note 16, at 235.

28. The complete commodity space of the economy.

29. Under this condition, since all firms are assumed to be privately owned, their managers have to maximize the firms’ profit subject to the firms’ production functions. Managers are fully informed about their technically feasible production plans.

Competition is perfect in the sense that there are enough potential buyers and sellers for each commodity that individual actors (households and firms) are unable to influence market prices.³⁰

There are no frictional losses, i.e., no transaction costs. This is an old and well known assumption of classical economic theory.³¹ When Debreu wrote his book, the neglect of frictional losses was a matter of course that needn't be mentioned.

Given above conditions, exchange contracts are “complete”³² and, in general equilibrium, Pareto efficient. They consequently fulfill a necessary, but not sufficient, condition of a socially optimal income or wealth distribution (Samuelson 1947, Ch. VIII). However, its legal and institutional economic interpretation by use of a social preference function would cause considerable headaches.³³ The EAL literature avoids these and the measurement problems related with Pareto efficiency that is based on ordinal individual utility measures. It employs instead, as a concept of efficiency, the maximization of aggregate wealth principle³⁴ (Kaldor-Hicks criterion³⁵), which uses a cardinal utility measure, and leaves distributional issues aside. At the same time, EAL avoids the general equilibrium approach and makes do with partial equilibrium considerations. Though transaction costs are a recurrent theme in EAL literature, it is argued that they are either low enough that their impeding influence on efficiency could

30. No large (or infinite) number of buyers and sellers is needed but only “the utter dispersion of power. George J. Stigler, *Competition*, in 3 INT'L ENCYCLOPEDIA SOC. SCI. 181–82 (1968).

31. They are in particular mentioned as justification for the use of money. See John R. Hicks, *A Suggestion for Simplifying the Theory of Money*, 1 *ECONOMICA* 1–19 (1935).

32. Complete contracts (or perfect contracts) are contracts whose terms are completely stated and verifiable for all possible contingencies. They are strictly enforceable. COOTER & ULEN, *supra* note 16, at 230.

33. The question of the social welfare function—as a target function of society—would be both, logically (*cf.* Arrow's impossibility theorem) and institutionally (*cf.* the theory of public choice and constitutional economics) a rather difficult topic to deal with.

34. THOMAS J. MICELI, *ECONOMICS OF THE LAW: TORTS, CONTRACTS, PROPERTY, LITIGATION* 6 (1997). Wealth is understood to be “. . . what people would pay for things (or demand in exchange for giving up things they possess), not what they do pay for them.” RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 16 (6th ed. 2003).

35. See HAL R. VARIAN, *MICROECONOMIC ANALYSIS* 405 (3d ed. 1992).

be eased by use of freely concluded standard contracts,³⁶ or if transaction costs are prohibitively high the state would have to employ suitable methods of public control—either by court ordering or direct public control.³⁷ In those cases, the government or the court should simulate the result of an unlimited private bargaining; that is, it should aim at a regulation or judgment that imitates a complete and, thus, an (at least bilaterally) efficient contract. “The court should correct an imperfect contract by restructuring its terms as the parties would have wanted it *if the contract were perfect*. Thus, the model of perfect contracts provides the organizing principles for the theory of contract enforcement.”³⁸

*B. Institutional Perspectives of “Principal-Agent Theory”*³⁹

Information costs are an important part of transaction costs. A simple way to model them is to assume that information costs are either zero or indefinitely high—as assumed in principal-agent theory. Principal-agent theory deals with bilateral exchange. One actor, the “principal,” makes a take it or leave it offer; his opponent—the “agent”—accepts or rejects. Both are fully informed except the principal—who has a complete “blind spot” toward his (potential) agent. For example, the principal is unable to observe: (1) before contract conclusion his potential agent’s (e.g., his job applicants’) quality⁴⁰; or (2) after contract conclusion, his agent’s effort level.⁴¹

However, to enable the principal to calculate his constrained individual utility maximum, the model builder gave him some extra pieces of information that he didn’t have (or needed to have) in GET. Examples of this follow.

For case (1): The principal now knows his applicants’ quality distribution (say, the numbers of high and low quality job applicants).

36. POSNER, *supra* note 24, at 69, 292.

37. *Id.* at 271. “The EAL commits the state to ensure the establishment of efficient methods of public control where the transaction costs of private negotiations would be prohibitively high.” EIDENMÜLLER, *supra* note 19, at 95 (own translation).

38. COOTER & ULEN, *supra* note 16, at 233.

39. As an example of informational economics, see Stiglitz, *infra* note 54.

40. A case of “adverse selection.”

41. A “moral hazard” case.

As a consequence, the principal is able to avoid an “adverse selection” among applicants by calculating a menu of contracts that brings the individual applicant⁴² to reveal his quality and, at the same time, helps to realize a second-best utility optimum for the principal.

For case (2): The principal knows, in addition to his agent’s reservation price, his agent’s utility function. Thus, he can calculate how his prospective agent will react to his offer. Given this information, the principal is able to offer his agent a compensation scheme that makes the agent to maximize the principal’s utility together with his own. In case of uncertain results, the principal obtains a second-best optimum.

In both cases, no bargaining is allowed—only a take it or leave it offer by the principal. Efficiency measure is in both cases the maximization of aggregate wealth principle.⁴³

The assumed institutional framework and individual behavior of actors are the same as in GET: The elementary legal order of a private ownership economy, a state that is strong enough to enforce this legal order, perfectly rational acting individuals, and zero transaction costs—apart from the assumed specific “blind spot” of the principal. Agency contracts are complete and perfectly enforceable by the courts at no cost. As Williamson puts it: “The future . . . holds no surprises; all of the relevant contracting action is packed into *ex ante* incentive alignments.”⁴⁴ It is this lack of realism in the assumptions of GET and principal-agent theory that gave rise to Williamsonian NIE.

III. AN INTERJECTION ON METHODOLOGY

In his famous article on “The Methodology of Positive Economics” Friedman argues against “the belief that a theory can be

42. Under certain further conditions.

43. *Cf.*, for instance, the description in FURUBOTN AND RICHTER, INSTITUTIONS AND ECONOMIC THEORY: THE CONTRIBUTION OF THE NEW INSTITUTIONAL ECONOMICS 218 (2d ed. 2005).

44. WILLIAMSON, *supra* note 7, at 27.

tested by the realism of its assumptions independently of the accuracy of its predictions”⁴⁵ Instead:

the relevant question to ask about the ‘assumptions’ of a theory is not whether they are descriptively ‘realistic,’ for they never are, but whether they are *sufficiently good approximations for the purpose in hand*. And this question can be answered only by seeing whether the theory works, which means whether it yields sufficiently accurate predictions.⁴⁶

For these reasons, Friedman prefers Marshall’s pure theory of perfect competition and pure monopoly to Chamberlin’s or Robinson’s theory of monopolistic or imperfect competition. He concedes, however, that his rejection of Chamberlin’s and Robinson’s criticism of GET does not imply that GET deserves any high degree of confidence. Any theory would be necessarily provisional and subject to change with the advance of knowledge.⁴⁷ Friedman admits that:

[p]rogress in positive economics will require not only testing and elaborating of existing hypotheses but also the construction of new hypotheses. On this problem there is little to say on a formal level. The construction of a hypothesis is a creative act of inspiration, intuition; its essence is the vision of something new in familiar material.⁴⁸

It would be highly desirable to have a more general theory than Marshall’s hypothesis of atomistically competitive firms, grouped into industries, and monopolies. Such a general theory would “enable us to handle problems we now cannot” However, “[t]o perform this function, the more general theory must have content and

45. MILTON FRIEDMAN, *ESSAYS IN POSITIVE ECONOMICS* 41 (1953). Friedman refers to the theories of monopolistic and imperfect competition which were explicitly motivated by the argument that the assumptions of “perfect competition” or “perfect monopoly” are a false image of reality. *Id.*

46. *Id.* at 15 (emphasis added).

47. *Id.* at 41.

48. *Id.* at 42.

substance; it must have implications susceptible to empirical contradiction and of substantive interest and importance.”⁴⁹

The theory of imperfect or monopolistic competition, unfortunately, would possess none of the attributes that would make it a truly useful general theory.⁵⁰ “Its contribution has been limited largely to improving the exposition of the economics of the individual firm and thereby the derivation of implications of the Marshallian model, refining Marshall’s monopoly analysis, and enriching the vocabulary available for describing industrial experience.”⁵¹

Friedman concludes: “The theory of monopolistic competition offers no tools for the analysis of an industry and so no stopping place between the firm at one extreme and general equilibrium at the other.”⁵²

Would principal-agent theory meet Friedman’s attributes of a truly useful general theory? Does it have content and substance? Are its implications susceptible to empirical contradiction and of substantive interest and importance?⁵³ Stiglitz understood informational economics (of which principal-agent theory is a special case) to be a more promising approach to economic life than GET.⁵⁴ It certainly helped to rationalize actual business relationships like sharing contracts. But, as for its predictive power, doubts may be in place. As Hart and Holmström admit, “the extreme sensitivity to informational variables that comes across from this type of modeling is at odds with reality. Real-world schemes are simpler than the theory would dictate and surprisingly uniform across a wide range of circumstances”⁵⁵ We won’t discuss this question here any further. In this Article, we are interested in the question: Does

49. *Id.* at 38.

50. *Id.*; see also GEORGE J. STIGLER, PRODUCTION AND DISTRIBUTION THEORIES 311 (1968).

51. FRIEDMAN, *supra* note 45, at 38.

52. *Id.* at 39.

53. This author was no more able to ask Milton Friedman himself while he was at the Hoover Institution during fall 2007.

54. Joseph E. Stiglitz, *Information and Economic Analysis: A Perspective*, 95 *ECON. J.* 21–41 (1985).

55. Oliver Hart & Bengt Holmstrom, *The Theory of Contracts*, in *ADVANCES IN ECONOMIC THEORY* ch. 3 (Truman F. Bewley ed., 1987).

Williamsonian NIE—the methodology of his TCA—meet Friedman’s demanding criteria? To answer this question we’ll first have a brief look at Williamson’s TCA.

IV. WILLIAMSON’S TRANSACTION COST APPROACH: ITS CLAIMS AND ITS ANALYTICAL CORE

A. *Williamson*

Williamson claims that his transaction cost approach offers a more general theory of contracts than market based EAL. The latter’s view of contracting would suggest “that commercial transactions are greatly dependent on and governed by legal forms and rules, while TCA addresses itself to a wider set of transactions.”⁵⁶

The absence of frictions (zero transaction costs) would certainly provide a useful standard, but there would remain numerous circumstances

where the departure from ideal conditions is sufficient to warrant sacrificing the frictionless assumption when studying actual phenomena. Milton Friedman’s (1953, 16–19) example of estimating the velocity of falling bodies by a simple formula ($s = \frac{1}{2}gt^2$) is illustrative. Whether this ‘oversimplifies’ or is quite adequate depends principally on what is being dropped (e.g., a steel ball or a feather), how close to a perfect vacuum has been attained and the precision of measurement required.⁵⁷

Williamson answers Friedman’s demanding criteria by, first, requiring that TCA has to be able to determine when the concept of “complete contract”⁵⁸ applies and “when it needs to be augmented by a richer conception of [imperfect] contract.” Second, regarding the empirical support of the TCA, he requires that “[t]he critical transaction cost dimensions for describing transactions need to be

56. Oliver E. Williamson, *Contract Analysis: The Transaction Cost Approach*, in *THE ECONOMIC APPROACH TO LAW*, at 40, 42 (Paul Burrows & Cento G. Veljanovski eds., 1981).

57. Williamson, *supra* note 56, at 55–60.

58. Williamson uses instead the term “discrete transaction paradigm.”

identified, and the resulting mix of transactions needs to be matched with governance structures in a discriminating (economizing) way.”⁵⁹

How does Williamson fulfill these two claims? We’ll try to couch our answer in an outline of the analytical core of his transaction cost approach.

B. The Analytical Core of Williamson’s Transaction Cost Approach

EAL, as explored in this Article,⁶⁰ distinguishes between *private* contracting under conditions of low transaction costs with coordination of individual plans by complete contracts, and public intervention or court ordering if the transaction costs of private contracting are prohibitively high, with nothing in between. Williamson’s TCA, on the other hand, questions court orderings or state interventions as the only means to protect one’s contractual agreements against an opportunistic opening of renegotiations by the other side.⁶¹ TCA concentrates, therefore, on various means of private ordering.⁶² The two extreme poles of TCA are, accordingly, low transaction costs (Williamson’s “market” case) and prohibitively high transaction costs (coordination through privately agreed upon hierarchical “governance structures” like corporations—Williamson’s “hierarchy” case). The zone between the two poles is filled by “hybrid modes of contracting”⁶³ as represented by various types of “governance structures”⁶⁴ of incomplete private contracts.⁶⁵ Thus, the

59. *Id.* at 57.

60. That is, as it was widely understood during the period of time when Williamson developed his TCA.

61. As Crocker and Masten explain: “As a number of legal and economic scholars have emphasized, contracts are not the precise, mechanically enforced documents often encountered in economic theory. Indeed, contracts are extremely imperfect tools for controlling opportunism.” Keith J. Crocker & Scott E. Masten, *Pretia Ex Machina? Prices and Process in Long-Term Contracts*, 34 J.L. & ECON. 69–99 (1991).

62. But also public regulation as in the case of private purchases of a natural monopoly. See, e.g., Oliver E. Williamson, *Franchise Bidding for Natural Monopolies—in General and with Respect to CATV*, 7 BELL J. ECON. 73–104 (1976).

63. Oliver E. Williamson, *Comparative Economic Organization: The Analysis of Discrete Structural Alternatives*, 36 ADMIN. SCI. Q. 269 (1991), reprinted in OLIVER E. WILLIAMSON, *THE MECHANISM OF GOVERNANCE* 96 (1996).

64. Thomas M. Palay, *Comparative Institutional Economics: The Governance of Rail Freight Contracting*, 13 J. LEGAL STUD. 265 (1984); Oliver E. Williamson, *Transaction-Cost Economics: The Governance of Contractual Relations*, 22 J.L. & ECON. 233–61 (1979).

concept of “governance structure” or “organizational design” is not only used for the control of individual activities within hierarchies but also within incomplete contracts. Consequently, Williamson occasionally calls his approach the “new economics of organization.”⁶⁶

However, neither EAL nor TCA offers a quantitative measure of transaction costs to facilitate empirical verification or refutation. Yet Williamson applies two qualitative criteria as a substitute measure for transaction cost levels: frequency of transactions, and transaction specific investments.⁶⁷

Interestingly, neither Coase, North, nor Williamson completely negate neoclassical microeconomics.⁶⁸ They criticize the general assumptions of individual rationality, perfect information, and zero transaction costs.⁶⁹ Their general assumptions are bounded rationality, imperfect information (including uncertainty in the sense of not knowing what the future will bring—hail, rain, sunshine?⁷⁰) and positive transaction costs.⁷¹ If honesty is not considered to be an inherent personality trait (and it is not), opportunistic behavior has to be expected. In fact, it is part of the central assumptions of Williamsonian NIE.⁷² As a consequence, the time after contract

According to Palay, the term governance (first used by Williamson) is in the contractual context a shorthand expression “. . . for the institutional framework in which contracts are initiated, negotiated, monitored, adapted, enforced, and terminated.” *Id.*

65. Williamson avoids the term “incomplete contracts” in this context. Instead, he speaks of “a richer conception of contract” than the “market-based paradigm.” Williamson, *supra* note 56, at 57.

66. Oliver E. Williamson, *The Evolving Science of Organization*, J. INSTITUTIONAL & THEORETICAL ECON. 38 (1993).

67. To offer a predictive theory of contract the “critical transaction cost dimensions for describing transactions need to be identified, and the resulting mix of transactions needs to be matched with governance structures in a discriminating (economizing) way.” Williamson, *supra* note 56, at 57.

68. North even writes: “To abandon neoclassical theory is to abandon economics as a science.” Douglass C. North, *Structure and Performance: The Task of Economic History*, 16 J. ECON. LIT. 974 (1978). It may be questioned whether he is still of this opinion.

69. At least in their earlier writings.

70. Actors don’t know all possible contingencies. Valid probabilities cannot be calculated in such a context. On this problem see, e.g., Jack Wiseman, *The Black Box*, 101 ECON. J. 151–55 (1991).

71. See, e.g., Williamson, *supra* note 66, at 104.

72. *Id.* As in the trust-abuse game, a person is assumed to be honest only if it is more advantageous to him than being unreliable. Cf. Lawrence G. Tesler, *A Theory of Self-Enforcing*

conclusion may cause “troublesome” problems in the world of NIE. Contract conclusion may lead to what Williamson calls the *Fundamental Transformation*: Because of transaction specific investments, the contractual parties may find themselves locked into a bilateral monopoly situation.⁷³ Due to their bounded individual rationality, the existence of transaction costs and imperfect foresight, the parties are unable to write a strictly enforceable complete contract.⁷⁴ As a consequence, opportunistic behavior of the other side becomes a problem.⁷⁵

Preventing *ex post* opportunistic behavior is difficult if not impossible.⁷⁶ Due to information and transaction costs, it is expensive, or even impossible, to verify one’s case to a third party such as a court. Court orderings may need to be supplemented or substituted by private orderings if the parties wish to effectively protect themselves against *ex post* opportunism of their trading partners. “An important element in designing contracts becomes economizing on the costs associated with resolving disputes and governing exchange.”⁷⁷ Williamson distinguishes in this context between three generic forms of governance, which differ also in contract law terms: markets, hybrids,⁷⁸ and hierarchies.⁷⁹

Agreements, 53 J. BUS. 27–44 (1980).

73. Williamson, *supra* note 66, at 104. Williamson writes: “The Fundamental Transformation explains why the problem of bilateral dependence—previously treated as a very special condition of *pre-existing* bilateral monopoly—is actually a very widespread and troublesome condition. . . . The discovery and explication of the Fundamental Transformation is very much a transaction cost economics exercise.” *Id.* (emphasis in the original).

74. One that details all possible future contingencies.

75. More detailed examples of opportunistic tactics of contractors “. . . to effect a redistribution of the gains from trade include capitalizing on ambiguous terms, suing for trivial deviations, making false claims of dissatisfaction, withholding relevant information, interfering with or failing to cooperate in the other party’s performance, and failing to mitigate damages where a breach has occurred.” Crocker & Masten, *supra* note 61, at 72 n.6.

76. “The courts (at least in the United States) will not enforce a “no renegotiation” clause in a contract . . .” JOHN ROBERTS, *THE MODERN FIRM: ORGANIZATIONAL DESIGN FOR PERFORMANCE AND GROWTH* 86 (2006).

77. Crocker & Masten, *supra* note 61, at 70.

78. Williamson, *supra* note 63, at 96.

79. OLIVER E. WILLIAMSON, *THE MECHANISM OF GOVERNANCE* 101 (1996). Which one is chosen depends among others on its involved degree of asset specificity and level of transaction costs (its governance costs). *Id.* at 105.

Empirical examples of contractual governance structures to limit opportunist renegotiations are described for long-term contractual relationships with highly idiosyncratic investments by the parties, for cases of vertical integration and instances of franchise bidding for public monopolies.⁸⁰ They support the hypothesis that, depending on circumstances, the governance structures of incomplete contracts can be seen as “efficient” adaptations—with “efficient” not being understood as Pareto efficiency. Efficiency in this sense “is not that of replicating ideal market results, but *procedural* efficiency in adjusting to an uncertain and changing environment.”⁸¹ North speaks of “adaptive efficiency.”⁸² Certainly, given the basic assumptions of NIE, attempts at adjustment may well bring about improvements but they are not the same as “efficiency” in the sense of optimal procedural or adaptive means.⁸³ It seems therefore better to avoid the term “efficiency” altogether. Following Herbert Simon’s replacement of “maximization” by “satisficing,”⁸⁴ we substitute the word “efficiency” by a boundedly rational version of it. For want of a better term, we’ll speak of “NIE-efficiency.”⁸⁵

To sum up, transaction cost economics demonstrates that, in the real world of positive transaction costs and under certain

80. TRANSACTION COST ECONOMICS VOL. II: POLICY AND APPLICATIONS (Oliver E. Williamson & Scott E. Masten eds., 1995). For more complete overviews of the empirical work on transaction cost economics, see Howard A. Shelanski & Peter G. Klein, *Empirical Research in Transaction Cost Economics: A Review and Assessment*, 11 J.L. ECON. & ORG. 335–61 (1995); CHRISTOPHER S. BOERNER & JEFFREY T. MACHER, TRANSACTION COST ECONOMICS: AN ASSESSMENT ON EMPIRICAL RESEARCH IN THE SOCIAL SCIENCES (2002).

81. Paul Burrows & Cento G. Veljanovski, *Introduction: The Economic Approach to Law*, in THE ECONOMIC APPROACH TO LAW, 24 (Paul Burrows & Cento G. Veljanovski eds., 1981).

82. DOUGLASS C. NORTH, INSTITUTIONS, INSTITUTIONAL CHANGE, AND ECONOMIC PERFORMANCE 80 (1990).

83. Optimality could at most be determined in very simple decision problems, where everything relevant can be known and computation and deliberation are virtually costless. Gerd Gigerenzer, *The Adaptive Toolbox*, in BOUNDED RATIONALITY: THE ADAPTIVE TOOLBOX 40–50 (Gerd Gigerenzer & Reinhard Selten eds., 2001).

84. HERBERT SIMON, MODELS OF MAN 198–205 (1957).

85. An alternative may be to use Williamson’s term “remediable.” WILLIAMSON, *supra* note 79, at 379. He understands, however, the term in an objectively profitable sense and writes: “A condition is held to be remediable if a superior feasible alternative can be described and implemented with net gains.” At another place he remarks, the NIE “. . . eschews hypothetical ideals and insists that the relevant comparisons are with feasible alternatives, all of which are flawed.” *Id.* at 7 (quoting Ronald H. Coase, *The Regulated Industries: Discussion*, 54 AM. ECON. R. 194–97 (1964)). See also Furubotn & Richter, *supra* note 43, at 119.

circumstances, incomplete contracts (in the sense of EAL as understood here) may be NIE-efficient. Legal enforcement and self enforcement complement each other with the aim “to design workable order-preserving mechanisms for adapting to disturbances.”⁸⁶ Court or public ordering, as in cases of public regulation, and private ordering characterize the governance structure or organizational design of contractual relationships. Attentive actors agree before they come to terms on a governance structure that they regard suitable.

V. DOES WILLIAMSONIAN NEW INSTITUTIONAL ECONOMICS MEET FRIEDMAN’S DEMANDING CRITERIA?

The two questions to be answered are: (1) Does it have “content and substance”? and (2) Are its “implications susceptible to empirical contradiction and of substantive interest and importance”?⁸⁷

On the first question, Posner raised serious doubts.⁸⁸ Scott summarizes Posner’s remarks as follows:

Posner seems to suggest that the contributions of the Williamson camp may lie more in terminology than in substance. Does bounded rationality lead us in a different direction than the recognition of information costs? Do asset specificity and opportunism create different problems than those considered under the heading of bilateral monopoly?⁸⁹

Is Posner’s assessment of Williamson’s TCA correct? Scott has his doubts about it and so does this author. Scott argues:

The traditional bilateral monopoly literature is concerned to find the optimal terms of trade between a single buyer and a single seller; there is no particular interest in how they arrived in that position of mutual uniqueness. Asset specificity is

86. Oliver E. Williamson, *The Economics of Governance*, 95 AM. ECON. REV. 1, 3 (2005).

87. FRIEDMAN, *supra* note 45, at 38.

88. Richard A. Posner, *The New Institutional Economics Meets Law and Economics*, 149 J. INSTITUTIONAL & THEORETICAL ECON. 73–87, 84–87, 120 (1993).

89. Kenneth E. Scott, *The New Institutional Economics Meets Law and Economics*, J. INSTITUTIONAL & THEORETICAL ECON. 93 (1993) (summarizing Posner 1993, *supra* note 88).

interested in precisely that latter question: what *creates* relationships of bilateral monopoly? One of the answers is a significant degree of loss of value if the physical or human capital in question has to be shifted to a new use—a distinctly different issue.⁹⁰

Scott extends his argument by asking: Did Williamson's treatment of bilateral-monopoly-type questions draw attention to them and carry them further? His answer is "decidedly in the affirmative":

Posner, for example, has stressed the high transaction costs (and lost opportunities for gain) often associated with strategic bargaining in bilateral monopoly situations, and the role of legal rules in avoiding them. But Williamson adds emphasis on the wide array of *contractual and governance devices invented by the parties* who foresee vulnerability to expropriation of whatever quasi-rents are embedded in their initial deal.⁹¹

Thus, Williamson's new approach to contract theory appears to meet Friedman's requirement of "content and substance," an impression underlined by the fact that Williamson's transaction cost approach opened up various new analytical fields such as the theory of incomplete contracts started by Grossman and Hart.⁹² Williamson's concept of private ordering was extended by techniques of self enforcement such as leaving hostages, providing collateral, or the strategy of "tit-for-tat."⁹³ His concept of the Fundamental Transformation is widely used in other fields. For example, in

90. *Id.* (emphasis in original).

91. *Id.* (emphasis added).

92. Further developed, i.e., by Holmstrom and Tirol (1991), Bernheim and Whinston (1998) and Bajari and Tadelis (2001). Leading German representatives of this approach are Nöldecke and Schmidt (1995), both from the Bonn school. Sanford J. Grossman & Oliver D. Hart, *The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration*, 94 J. POL. ECON. 691–719 (1986); Bengt Holmstrom & Jean Tirole, *Transfer Pricing and Organizational Form*, 7 J.L. ECON. & ORG. 201–28 (1991); B. Douglas Bernheim & Michael Winston, *Common Marketing Agency as a Device for Facilitating Collusion*, 16 RAND J. ECON. 269–81 (1985); Patrick Bajari & Steven Tadelis, *Incentives Versus Transaction Costs: A Theory of Procurement Contracts*, 32 RAND J. ECON. 381–407 (2001); Georg Nöldecke & Klaus M. Schmidt, *Sequential Investments in Options to Own*, 29 RAND J. ECON. 633–53 (1995); URS SCHWEIZER, VERTRAGSTHEORIE (1999).

93. Anthony T. Kronman, *Contract Law in the State of Nature*, 1 J.L. ECON. & ORG. 5–32 (1985); ROBERT M. AXELROD, THE EVOLUTION OF COOPERATION (1984).

political science it became a central hypothesis of the theory of international regimes, which are legally unenforceable because of the sovereignty of the states. Following TCA, they are interpreted as relational, self-enforcing contracts, which help to organize relationships in mutually beneficial ways. “The rules are changed, bent or broken to meet their exigencies of the moment. . . . They are often matters of negotiation and renegotiation.”⁹⁴

On the above second question, statements that are “susceptible to empirical contradiction”, as Friedman demands, require that the variables of claimed causal relationships are measurable. The independent and dependent variables of Williamson’s transaction cost economics are not only in principle but also in fact (roughly⁹⁵) measurable.⁹⁶ Independent variables are his three “critical dimensions”: uncertainty, the frequency with which transactions recur, and the degree to which investments are idiosyncratic.⁹⁷ Dependent variables are a series of governance structures: from “pure, anonymous spot markets” to fully integrated firms or hierarchies, with diverse hybrid modes in between.⁹⁸ Williamson assumes that, given the critical dimensions, the contractual parties choose with certainty a particular, ideally NIE-efficient, governance structure.⁹⁹ His assumed relationship between critical dimension and governance structure is not expressed by a mathematical function but rather by an ideal typical relationship. Such relationships are also (roughly) measurable as illustrated by other fields such as medical science.

Thus Williamson’s transaction cost economics appears to be “susceptible to empirical contradiction.” In fact, as Shelanski and

94. Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Political and the Competitive Contracting Process*, 28 J.L. & ECON. 89 (1984).

95. See *supra* note 68.

96. C. H. COOMBS, R. L. DAVIS & ROBERT MCDOWELL THRALL, *DECISION PROCESSES* 24 (1954).

97. Williamson, *supra* note 56, at 49.

98. WILLIAMSON, *supra* note 79, at 107. “. . . the hybrid mode is located between market and hierarchy with respect to incentives, adaptability, and bureaucratic costs, . . .” Examples are complex contracts or partial ownership arrangements.

99. Oliver E. Williamson, *Strategizing, Economizing, and Economic Organization*, 23 STRATEGIC MGMT. J. 75, 79 (1991). As Williamson puts it: TCA is an effort to “align transactions, which differ in their attributes, with governance structures, which differ in their costs and competencies, in a discriminating (mainly, transaction cost minimizing) way.”

Klein have shown, it is supported by a large number of empirical studies covering a broad range of phenomena.¹⁰⁰ That transaction cost economics is also of “substantive interest and importance” as reflected by the positive echo Williamson’s approach received in the economic literature and beyond.¹⁰¹

VI. THE ROLE OF LAW IN THE NEW INSTITUTIONAL ECONOMICS

In this Article we compared Williamsonian New Institutional Economics with the early version of Economic Analysis of Law of contractual relationships. While the latter deals with contract in the legal sense of the term—understood in accordance to the law of the land—Williamson uses the term contract in everyday language that includes non-legal relationships. As for contracts in the legal sense, Williamson emphasizes the role of “relational contracts,”¹⁰² which he lists, together with firms and markets, in the subtitle of his book *The Economic Institutions of Capitalism*.¹⁰³ Williamson argues that efficient organizational structures depend on and are governed by more than legal rules: “informal procedures and non-market organization also perform important functions.”¹⁰⁴ Furthermore, since there are limits to the force of law, court ordering would have to be supplemented or substituted by private ordering, which is needed to safeguard one’s transaction-specific investments against *ex post* opportunistic maneuvers of the other side. Finally, unforeseen events and disturbances play a major role in social life, wherefore

100. Shelanski & Klein, *supra* note 80, at 338–61. They point out:

The empirical work in transaction cost economics uses a variety of econometric and historical methods. . . qualitative case studies, quantitative case studies, and cross-sectional econometric analyses. . . . The bulk of the empirical literature . . . consists of case analyses of various kinds . . . because the main variables of interest—asset specificity, uncertainty and frequency—are difficult to measure consistently across firms and industries.

Id. See also Boerner & Macher, *supra* note 80.

101. Though not necessarily in the sociological literature. Rudolf Richter, *New Economic Sociology and New Institutional Economics* (Annual Conference of the International Society for New Institutional Economics, paper presented Sept. 13–15, 2001), available at <http://www.uni-saarland.de/fak1/fr12/richter/institut/revise4.pdf>.

102. Ian R. Macneil, *The Many Futures of Contracts*, 49 S. CAL. L. REV. 1978 (1974).

103. WILLIAMSON, *supra* note 7.

104. Williamson, *supra* note 56, at 42.

organizational arrangements have to “aim at workable order-preserving mechanisms for adapting to disturbances.”¹⁰⁵ Pareto efficiency (including Kaldor-Hicks efficiency) of neoclassical economics becomes obsolete. It has to be substituted by a different concept of efficiency that allows for adaptability to the unforeseen and limited rationality of actors; we called it “NIE-efficiency”. In this sense, imperfect contracts may be limited-rationally efficient provided the contractual parties chose a NIE-efficient governance structure or organization of their relationship. It is important to see that, different from GET and agency theory, the bargaining object of Williamsonian NIE is much wider. It includes the choice of the contractual form and its organizational design. The “immediate parties to an exchange are actively involved in the provision of good order and workable arrangements.”¹⁰⁶ They will bargain with each other until they have reached an NIE-efficient exchange equilibrium inclusive of its governance structure.¹⁰⁷ If the parties are unable to resolve their differences themselves and use the courts for “ultimate appeal” they can only hope that courts interpret their contracts “as if they had spent the time and effort to specify more detailed terms.”¹⁰⁸ Courts can at most try to resolve ambiguities of incomplete contracts; they cannot replace their basic governance structure by one they consider might be more efficient. As mentioned above, Williamson distinguishes between three generic forms of governance: markets, hybrids and hierarchies. Court ordering works best for market governance. In the case of hybrid modes, courts would be mainly supplanted by private ordering between the parties. As for hierarchies, courts would stay out of conflict resolution, with exceptions for fraud and conflict of interest.

105. Williamson, *supra* note 86.

106. *Id.* at 2.

107. Probably for this reason, Williamson calls his approach also the “economics of governance.” *Id.*

108. STEVEN SHAVELL, FOUNDATION OF ECONOMIC ANALYSIS OF LAW 301 (2004).

VII. AFTERWORD¹⁰⁹

The Chicago or market based approach of EAL dominated the scene in the 1960s and 1970s when Williamson developed his transaction cost approach. Today, “practitioners of law and economics no longer sing in a single voice.”¹¹⁰ That seems to be true even at the University of Chicago Law School. Thus, while Posner defends, unchanged, the assumption of perfect rationality,¹¹¹ Epstein agrees “heartily” with Gigerenzer who promotes “the view of bounded rationality as the way real people make the majority of their inferences and decisions.”¹¹² Contracting costs are increasingly taken note of¹¹³; contractual holdups such as renegotiations under duress, which are the basic problem of Williamson’s transaction cost economics, found their way into modern EAL literature. A newer “incomplete contract” literature evolves, which takes as its task “the design of efficient *alternatives* that do not require completely specified contracts.”¹¹⁴ Craswell discusses legal aspects of characteristic problems of Williamsonian NIE: the imperfections of courts, legal problems of renegotiations, and problems of efficient precautions. Shavell examines the theory and practice of legal interventions in contracts to prevent holdups.¹¹⁵ Scott discusses the anticipation of prospects of renegotiations being built into contractual design.¹¹⁶ Shavell also models the problem of interpretation of

109. OLIVER HART, *FIRMS, CONTRACTS, AND FINANCIAL STRUCTURE* (1995). In the later EAL literature, legal interventions in case of contractual holdups are discussed with an eye on (mathematical) economic theory of contracts as described by Hart (1995); *See, e.g.*, Steven Shavell, *Contracts, Holdup, and Legal Intervention* (Harvard Law School Discussion Paper, Mar., 2005); Steven Shavell, *On the Writing and Interpreting of Contracts*, 22 J.L. ECON. & ORG. 289–314 (2006).

110. Ejan Mackaay, *History of Law and Economics*, in *ENCYCLOPEDIA OF LAW AND ECONOMICS* (Boudewijn Bouckaert & Garrit De Geest eds., 2000).

111. POSNER, *supra* note 34, at 18–21.

112. Richard A. Epstein, *The Optimal Complexity of Legal Rules*, in *HEURISTICS AND THE LAW* 142 (Charles Engel & Gerd Gigerenzer eds., 2006).

113. *See, e.g.*, Alan Schwartz & Joel Watson, *The Law and Economics of Costly Contracting*, 20 J.L. ECON. & ORG. 2–31 (2004); Shavell (2006), *supra* note 109.

114. Richard Craswell, *The Incomplete Contracts Literature and Efficient Precautions*, 56 CASE W. RES. L. REV. 151–68 (2005).

115. Shavell (2005), *supra* note 109.

116. Robert E. Scott, *Incomplete Contracts and the Theory of Contract Design*, 56 CASE W. RES. L. REV. 187–201 (2005). This is similar to Williamson’s claim that “ex post support

incomplete contracts and mentions a number of articles that addressed or touched upon that topic earlier.¹¹⁷ Thus, newer literature on EAL is developing that takes up core issues of Williamson's TCA—without going back to his work, but starting directly from the much narrower approach of the mathematical theory of incomplete contracts that developed from TCA.¹¹⁸

Of course, regarding its object of research, EAL goes on to analyze legal issues, while the NIE sticks to its general problem of organizational design—a field of research that has grown far beyond Williamsonian NIE.¹¹⁹ Of interest in this connection is the remark by Posner that in the task of feasible judicial reform, “the literature in organizational economics, as yet neglected by economic analysts of law, has an important role to play.”¹²⁰

institutions of contract matter” WILLIAMSON, *supra* note 7, at 29.

117. Shavell (2006), *supra* note 109, at 293.

118. *See, e.g.*, Scott, *supra* note 116; Shavell (2005), *supra* note 109; Craswell, *supra* note 114.

119. For a review, see ROBERTS, *supra* note 76.

120. Posner, *supra* note 6, at 413.