5. Incomplete Contracts

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5.1 Transaction Costs Economics

5.1.1 Background

Coase (1937) is the seminal paper of "new institutional economics" (NIE), which initiates two branches: the theory of the firm and transaction costs economics (TCE). Coase argued that the nature of the firm is the substitute for market, because there are some transaction costs for price in market and firm can save those by replacing price with order or authority. While Alchina and Demsetz (1972) denied that there is any substantial difference between firm and market[①], economists usually recognize that asymmetrical authority or residual claim of control exists within any vertical organization, such as firms, governments, and etc.

Although Coase (1937) pointed out that transaction costs are the cause why a firm exists, people don't know how transaction costs affect the boundary of the firm, such that there had been a long time for "transaction costs" with the status of "cited but not used". It is Oliver Williamson that made the terminology of "transaction costs" verifiable and testable. In some sense, Williamson is the founder of transaction costs economics (TCE).

It's a pity that Williamson passed away on 21st, May, 2020.

The following bio of Williamson was based on Wikipedia:

Williamson was born in Superior, Wisconsin, the son of Sara Lucille (Dunn) and Scott Williamson. A student of Ronald Coase, Herbert A. Simon and Richard Cyert, he specialized in transaction cost economics. Williamson attended Central High School in Superior. He received his B.S. in management from the MIT Sloan School of Management in 1955, MBA[②] from Stanford University in 1960, and his Ph.D. from Carnegie Mellon University in 1963. From 1965 to 1983 he was a professor at the University of Pennsylvania and from 1983 to 1988, Gordon B. Tweedy Professor of Economics of Law and Organization at Yale University. He held professorships in business administration, economics, and law at the University of California, Berkeley since 1988 and was the Edgar F. Kaiser Professor Emeritus at the Haas School of Business. As a Fulbright Distinguished Chair, in 1999 he taught Economics at the University of Siena. Found to be one of the most cited authors in the social sciences, in 2009, he was awarded the Nobel Memorial Prize in Economics for "his analysis of economic governance, especially the boundaries of the firm", sharing it with Elinor Ostrom.

Different from almost mainstream economists whose theoretical contribution is indicated by some famous papers usually on top journals, Williamson's main contribution is displayed by three

① Professor Hart joked that he and U.S. President Obama have equal authority.
② Robert Wilson (2020 Nobel Laureate) and Michael Porter (Harvard Business School) were also MBA.

books as following:

Williamson, Oliver E., 1975, *Markets and Hierarchies: Analysis and Antitrust Implications*, New York: Macmillan Publishers.

Williamson, Oliver E., 1985, *The Economic Institutions of Capitalism*, New York: Macmillan.

Williamson, Oliver E., 1996, *The Mechanisms of Governance*, New York: Oxford University Press.

5.1.2 From choice to contract

In order to understand the position of NIE, contract theory and neoclassical economics, I want to share you with the big picture of social sciences (Williamson, 2000).

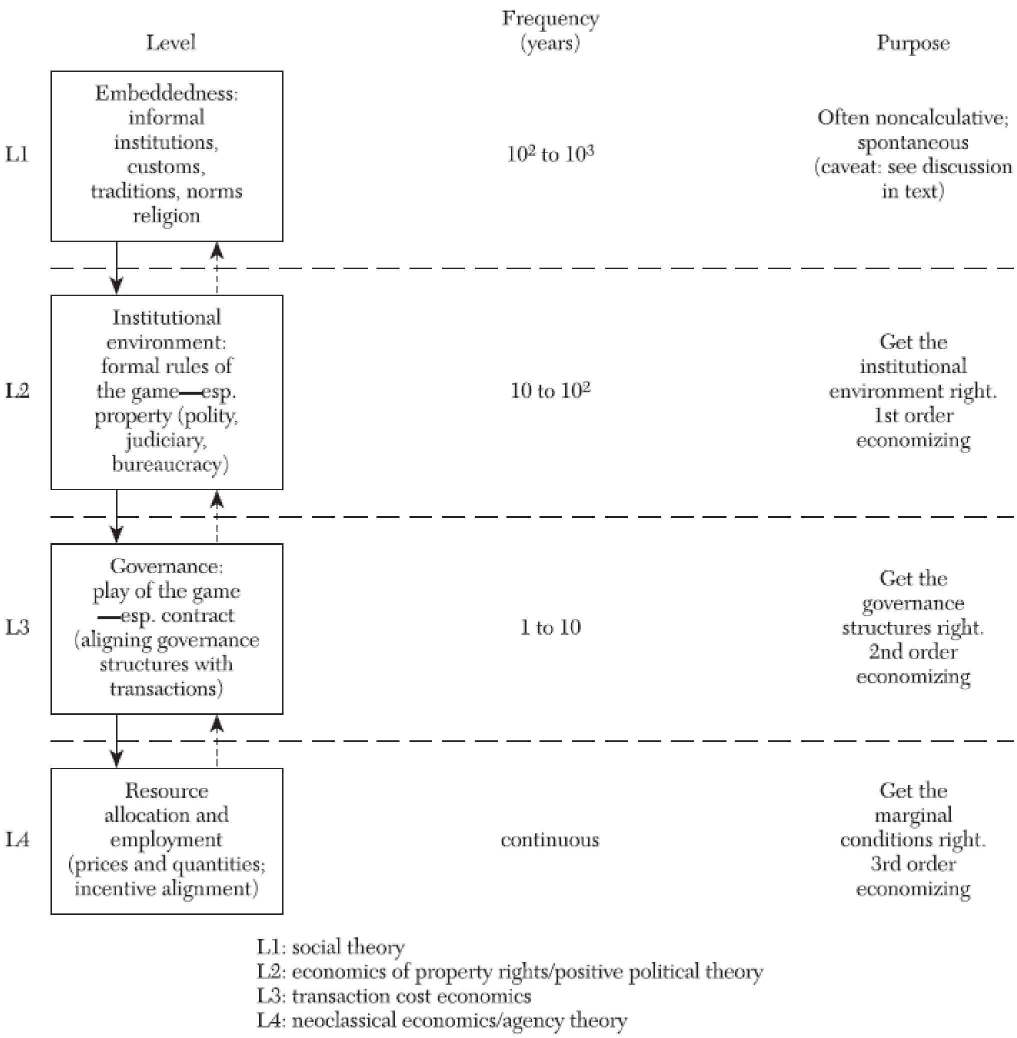
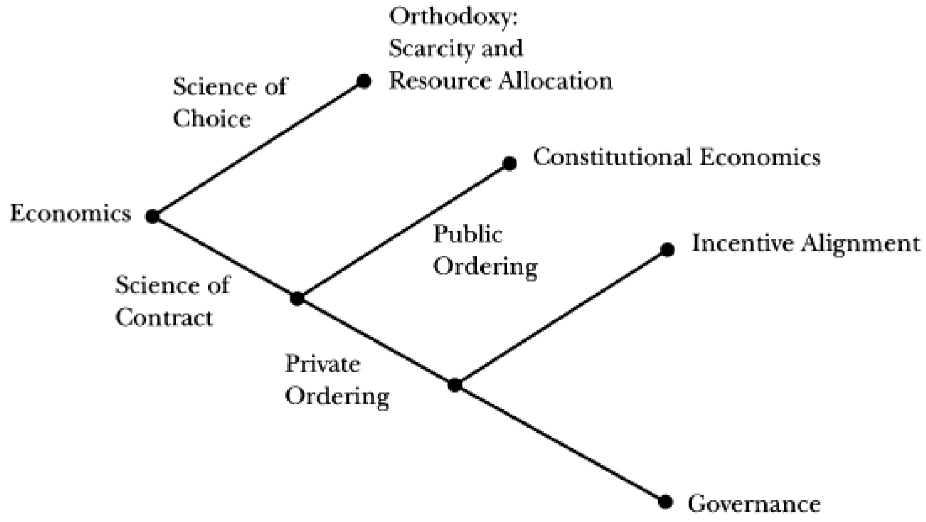


Figure 1. Economics of Institutions

Furthermore, Williamson (2002) distinguished contract theory from neoclassical economics. Economics throughout the twentieth century has been developed predominantly as a science of choice. In neoclassical economics, choice has been developed in two parallel constructions: the theory of consumer behavior, in which consumers maximize utility, and the theory of the firm as a production function, in which firms maximize profit. But the science of choice is not the only lens for studying complex economic phenomena, nor is it always the most instructive lens. The other parallel development of a science of contract was neglected.

Figure 1
The Sciences of Choice and Contract



There are three aspects of differences between the science of choice and the science of contract: (1) research subject: individual action vs. institutions or rules of game; (2) basic assumptions: perfect competition and symmetrical information vs. imperfect competition and asymmetrical information; (3) framework: atomic individual vs. contracts.

5.1.3 The outline of TCE

Now let's glance over the classical book named "*The Economic Institutions of Capitalism*" led by the outline (Nie, 2004). The three keywords for TCE are: bounded rationality, opportunism, asset specificity. The objective of contract design is to minimize the transaction costs which stems from holdup under incomplete contracts with asset specificity. The case of GM's acquisition of Fisher Body indicates the power of vertical integration.

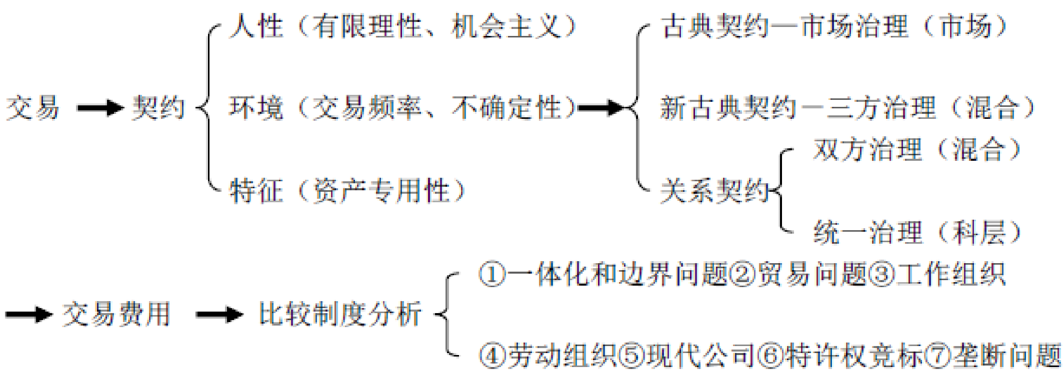
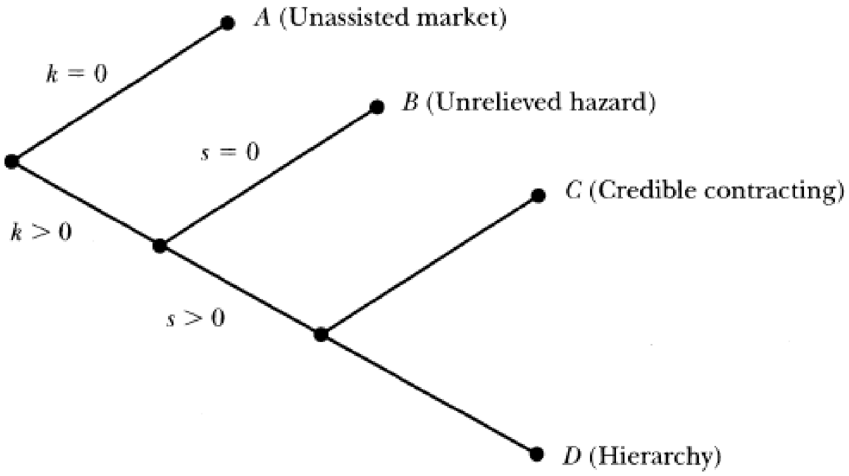


图 1 全书的结构

The basic unit of analysis of TCE is transaction, which is the tradition of old institutional economics (Commons, 1934). All the transaction could be distinguished into three types according to asset specificity (k), safeguards (s), and they correspond to different prices and "governance structure" (institutions).

Figure 3
Simple Contracting Schema



5.1.4 The analysis of discrete structural alternative

Williamson (1991) approached the study of economic organization from a comparative institutional point of view in which transaction-cost economizing is featured. Comparative economic organization never examines organization form separately but always in relation to alternatives. Transaction-cost economics places the principal burden of analysis on comparisons of transaction costs—which, broadly, are the "costs of running the economic system" (Arrow, 1969: 48).

Table 1

Distinguishing Attributes of Market, Hybrid, and Hierarchy Governance Structures*

	Governance structure		
Attributes	Market	Hybrid	Hierarchy
Instruments			
Incentive intensity	+ +	+	0
Administrative controls	0	+	+ +
Performance attributes			
Adaptation (A)	+ +	+	0
Adaptation (C)	0	+	+ +
Contract law	+ +	+	0

* + + = strong; + = semi-strong; 0 = weak.

Note: Adaption (C) should be Control (C).

5.1.4 Transaction-cost economics vs. behavioral economics

Williamson was influenced by behavioral economics and interdisciplinary education in college. But Williamson (2002) said that transaction-cost economics is different from the behavioral economics program that flourished at Carnegie in the late 1950s/early 1960s. Contrary to Simon, TCE is “more neoclassical”, and is an empirical success story. Rather than pronounce “This is the law here”, Carnegie encouraged the student of organization to ask “what’s going on here?” Not only does TCE ask that question but it is furthermore indebted to Carnegie by subscribing to the following: (1) bounded rationality; (2) process matters; (3) near-decomposability; (4) discrete structure analysis; and (5) adaptation. Also, TCE works out of (6) weak-form selection.[①]

While the significant reliance of TCE on Carnegie notwithstanding, there are also differences. The most consequential of these are (1) choice and operationalization of the unit of analysis; (2) the main lesson for economic analysis of bounded rationality, (3) the description of self-interest, (4) the condition of foresight and (5) the role of informal organization. By reason of these differences, TCE gives different and more prominent attention to contract. One of the consequences is that TCE and Simon/Carnegie often deal with different microanalytic phenomena and inform different issues of public policy.

“I am confident that those who have been working the transaction cost economics domain will continue their ‘modest, slow, molecular, definitive’ efforts—piling block upon block until the value added cannot be denied.”（日拱一卒，功不唐捐）-- Williamson (2002)

References:

聂辉华，2004，《交易费用经济学：过去、现在和未来》，《管理世界》，第 12 期

Williamson, O, 1991, “Comparative Economics Organization: The Analysis of Discrete Structural Alternatives”, *Administrative Science Quarterly*, 36: 269-96

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① It's something like “feasibility” or “second best”.