

## THE TRANSACTION COST ECONOMICS PROJECT

OLIVER E. WILLIAMSON  
University of California, Berkeley

---

JEL Classification: D23; L14

Received: February 12, 2014 / Accepted: June 11, 2014

---

My discussion of the Transaction Cost Economics Project is in three parts. Section 1 addresses the question, what is Transaction Cost Economics (TCE)? Section 2 deals with How did I get involved? Section 3 looks to the future.

### 1. WHAT IS TCE?

Unlike textbook economic theory, which implicitly assumed that transaction costs are zero and described the firm as a production function for transforming inputs into outputs according to the laws of technology, TCE views firm and market organization as alternative modes of governance – where governance is the means by which to infuse order, thereby to mitigate conflict and realize mutual gains. TCE furthermore maintains that transaction costs are not zero but are positive.

Regrettably, however, the operationalization of positive transaction costs was a long time in the making. Awaiting demonstrations that such costs were consequential, transaction costs were ignored.

Thus although Ronald Coase introduced the concept of transaction costs in his 1937 paper on “The Nature of the Firm,” that paper had negligible immediate impact. Instead it was ignored over the interval 1940-1960, during which period mathematical economics flourished. The propensity to be dismissive of transaction costs was challenged in the 1960s, however, by both Coase and Kenneth Arrow.

Coase’s 1960 paper on “The Problem of Social Cost” demonstrated that externalities would vanish in a world of zero transaction costs. That is because the parties to transactions that were thought to experience externalities would, given zero transaction costs, recognize the inefficiencies that resided therein and would costlessly bargain to an efficient result to which net gains would accrue. Arrow (1968) used vertical integration to achieve a similar result: “The existence of vertical integration may suggest that the costs of operating competitive markets are not zero, as is usually assumed in our theoretical analysis.”

Plainly, both contradictions were embarrassing. But even though positive transaction costs now had to be admitted, it takes a theory to beat a theory. Awaiting such, textbook economics would remain secure.

Indeed, invoking positive transaction costs without the benefit of a theory gave the concept of transaction costs a bad name. Operationalizing positive transaction costs posed a challenge. This would become my *entre*.

Contrary to the neoclassical theory of the firm as a production function (a technological construction), I described the firm as a governance structure to be examined in relation to the strengths and weaknesses of alternative modes of governance. The three main modes of governance that would come under examination are markets, hybrids, and hierarchies.

TCE maintains that the main problem to be dealt with by organization is that of adaptation and that the main purpose of organization is economizing – where this latter is accom-

plished by the efficient alignment of modes of governance with the attributes of transactions. Note in this connection that TCE is a more microanalytic project than neoclassical economics – in that the attributes of transactions now need to be ascertained and likewise the syndromes of attributes that describe markets and hierarchies and other modes of governance need to be described. Once these are accomplished, the predicted alignment of transactions with modes of governance proceeds.

Yet unmentioned but plainly important are the attributes that are ascribed to human actors. Considerations of rationality and self-interest seeking are both important in this connection. The hyperrationality that is associated with neoclassical economics now gives way to what Herbert Simon describes as “bounded rationality” – where by this he means that human actors are intendedly rational but only limitedly so. A consequence of this is that all complex contracts are unavoidably incomplete. Also, TCE supplants simple self-interest seeking by introducing opportunism. Thus although most people will do what they say and some will do more most of the time, outliers for which the stakes are great are the ones where strategic behavior sets in. Transactions that are supported by specialized investments and are subject to considerable uncertainty are those for which markets give way to hybrids or hierarchies – in that the additional safeguards that are provided by hybrids and hierarchies serve to relieve the incentives to behave strategically in the market if the assets in question are non-redeployable.

So how do the efficient alignment predictions of TCE relate to the data? As others have shown and as Steven Tadelis and I document in our recently published paper (2014), TCE is an empirical success story.

## **2. HOW DID I GET INVOLVED IN THE TCE PROJECT?**

The five factors that led to my involvement in the TCE project are (1) my unusual college education, (2) the marvels of my years at the Graduate School of Industrial Administration at Carnegie Mellon, (3) my experience as a teacher, (4) my service as Special Economic Assistant to the Head of the Antitrust Division of the U.S. Department of Justice, and (5) my determination to examine vertical integration in organizational (rather than purely technological) terms.

### **2.1 My undergraduate education**

I received my bachelor's degree in engineering from MIT in 1955. Making provision for friction in engineering is akin to introducing transaction costs in economics. Yet there was a yawning difference. Whereas engineering made explicit provision for friction, the economics profession continued to assume that transaction costs were zero in both theory and practice. This I recognized as consequential. By reason of my engineering training I was predisposed to look into and make allowance for positive transaction costs.

### **2.2 Stanford and Carnegie**

After working for three years as a project engineer I applied to and was admitted to the PhD program at the Stanford Graduate School of Business. But then a funny thing happened. I took a required course in economics in the Business School and discovered that a lot of my engineering training carried over. My economics teacher picked up on my economics interests and suggested that I take electives in the Economics Department in my second year, which I did and enjoyed. Then another junior appointment to the Business School called my attention to the recently launched PhD program at the Graduate School of Industrial Administration at Carnegie Mellon University. I looked into it, liked what I saw, and transferred to GSIA for my last three years. GSIA was truly a transformative experience.

The GSIA program was divided into three parts: economics, organization theory, and operations research. I concentrated mainly on economics and organization theory and found this combination together with the Carnegie ambience to be exhilarating! What I have described as the Carnegie Triple is this: be disciplined, be interdisciplinary (if and as your project has interdisciplinary features), and have an active mind. Ask the question “What’s going on here?” rather than pronounce “This is the law here!”

I think of the years 1955 to 1965 as the Camelot Years during which GSIA flourished. Leading edge research was abundant – which is borne out by the fact that four (of the 20) research faculty at GSIA would later receive Nobel Prizes in the Economic Sciences for work done during the Camelot Years. But there is more: four GSIA students from that era would also receive Nobel Prizes. As Jacques Dreze, who was a visitor at GSIA, put it, “Never since have I experienced such intellectual excitement” (1985).

Indeed before I graduated from Carnegie I found that I too could produce publishable research – sometimes on novel or controversial subjects. My dissertation, The Economics of Discretionary Behavior is illustrative.

### **2.3 My early years as a teacher**

My first appointment upon graduation in 1963 was as an assistant professor in the Economics Department at the University of California, Berkeley. I thought of myself as an applied microeconomist with interests in organization. The field that seemed the best fit for this description was Industrial Organization, in which field I did half of my undergraduate teaching.

Although the leaders in that field were content with the basic IO framework and its applications to antitrust and regulation, I discovered what I considered to be flaws. Thus whereas new developments of a technical or mechanical kind were mainly regarded favorably in IO, new organizational developments were viewed skeptically. At best they were lacking in merit and very likely were anticompetitive. I knew otherwise, but to little avail within the IO community.

### **2.4 My year with Antitrust**

I left Berkeley to accept an appointment as a non-tenured associate professor of economics at the University of Pennsylvania in 1965, where I found that the study of organization received a more favorable treatment. With the approval of the Chair of the Economics Department, I took leave in my second year at Penn to serve as Special Economic Assistant to the Head of the Antitrust Division of the U.S. Department of Justice. This was a fascinating job with an extraordinary number of talented lawyers – as with the Head of the Antitrust Division, Donald Turner, his Special Legal Assistant, Steven Breyer (now a judge in the U.S. Supreme Court), Richard Posner (in the Solicitor General’s office), and the list went on and on. All of this talent notwithstanding, there was a serious problem: the economic reasoning to which they subscribed was the defective Industrial Organization literature that I have been referring to.

### **2.5 Teaching is learning**

Upon discovering that the leadership of the Antitrust Division had little respect for the economic benefits that often accrued to organizational innovation, I resolved to examine vertical integration from a transaction cost economics perspective when I returned to the University of Pennsylvania in 1967. I began by organizing a seminar on vertical integration where the students and I went through the literature exhaustively. Finding that little attention was paid to organizational effects, I decided to undertake such a project myself.

My paper “The Vertical Integration of Production: Market Failure Considerations” was published in the American Economic Review in 1971. I used a contractual approach to examine vertical integration by focusing on transaction cost differences between markets and hierarchies that arose by reason of varying transactional conditions. The main result is that Vertical Integration – that is, taking transactions out of the market and organizing them within the firm – would realize transaction cost economies as conditions of bilateral dependency between buyers and suppliers built up.

Albeit intended as a one-shot paper, in that I expected to return to my usual applied microeconomics research, I discovered that thinking in a comparative contractual and more micro-analytic way was applicable to many issues. What I now refer to as Transaction Cost Economics was on its way.

Student responses to this new way of thinking about contract and economic organization were generally good, especially among my graduate students at Berkeley (to which I returned in 1988). They took the theory and ran with it, usually with good and often with excellent results. They have been a joy to work with – and I expect that the same is true with many of your students as well.

### 3. WHERE DO WE GO FROM HERE?

I should point out in this connection that Transaction Cost Economics has many applications not only within the field of industrial organization but within most applied fields of economics – to include labor, public finance, comparative economic systems, and economic development and reform. Applications to business – to the fields of strategy, organizational behavior, marketing, finance, operations management, and accounting – are likewise numerous. Applications to the contiguous social sciences (especially sociology, political science, social psychology, and aspects of the law) have also been made. Such broad reach arises because any problem that originates as or can be reformulated as a contracting problem can be examined to advantage in transaction cost economizing terms.

More such work is doubtlessly in prospect. Especially relevant in this connection are applications to other nation states, of which China is an example. Indeed, Chinese social scientists express keen interest in TCE. Yet there is a problem: the institutional environment in China (and many other countries) is different than in Western Democracies.

Relevant in this connection is the fact that the New Institutional Economics divides into two parts. The one is the Institutional Environment, which has been described by Douglass North (1991) as follows: the Institutional Environment describes “the humanly devised constraints that structure political, economic, and social interactions. They consist of both informal constraints (sanctions, taboos, customs, traditions, and codes of conduct) and formal rules (constitutions, laws, property rights). Such matters are often thought of as the rules of the game.” TCE, by contrast, is concerned with the Institutions of Governance, where these describe the “play of the game.”

Applications of TCE in China should make provisions for differences in the Institutional Environment. I would add, however, that the while extant rules require respect, realization that some of the rules have adverse consequences on the play of the game could lead to (indeed, has led to) rule reforms. I expect that more work of this kind will be undertaken and, possibly, even flourish. I expect that the same will be the case in Montenegro.

### REFERENCES

Arrow, Kenneth J., 1969. “The Organization of Economic Activity.” In the Analysis and Evaluation of Public Expenditure: The PBB System. Vol. 1, U.S. Joint Economic Committee, U.S. Government Printing Office, pp. 59-73.

- Coase, Ronald H. 1937. "The Nature of the Firm," Economica N.S., 386-405.
- \_\_\_\_\_. 1960. "The Problem of Social Cost," Journal of Law and Economics, October, pp. 1-44.
- Dreze, Jacques. 1995. "Forty Years of Public Economics: A Personal Perspective." Journal of Economic Perspectives, Spring, pp. 111-130.
- North, Douglass. 1986. "The New Institutional Economics." Journal of Economic Perspectives, March, pp. 7-17.
- Simon, Herbert. 1957. Models of Man. John Wiley, New York. Pp. 198-199.
- Steven Tadelis and Oliver Williamson. 2014. "Transaction Cost Economics." In The Handbook of Economic Organization (Robert Gibbons and John Roberts, eds.), Princeton University Press, p. 182.
- Williamson, Oliver. 1964. The Economics of Discretionary Behavior: Managerial Objectives in a Theory of the Firm, Prentice Hall, NJ.
- \_\_\_\_\_. 1971. "The Vertical Integration of Production: Market Failure Considerations," American Economic Review, May, pp. 112-123.

