

# The Insight and The Legacy of “The Theory of Share Tenancy”

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**Abstract:** *The Theory of Share Tenancy* by Steven Cheung, first published as a PhD thesis 50 years ago, was an important watershed study on the economics of contracts. It contained the first formal demonstration of the Coase Theorem, linked the concepts of property rights and transaction costs, laid early foundations for the future economics of contracts, and can even lay claim to originating the idea of a risk/incentive tradeoff in contract design. This essay examines Cheung’s key contributions in *Share Tenancy*, and considers reasons for its somewhat limited legacy outside of China.

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## I. Introduction

In 1967, Ng-Sheong Cheung defended his thesis at UCLA entitled *The Theory of Share Tenancy — with Special Application to the First Phase of Taiwan Land Reform*. The thesis' core Chapter 2, was also called “The Theory of Share Tenancy,” and contained all of the key theoretical insights of the thesis. Part of this chapter was published in the *Journal of Political Economy* in 1968, and became Chapter 2 in the 1969 book (also) entitled *The Theory of Share Tenancy*. The remaining three chapters of the thesis examined specific land reforms in Taiwan.

The book *The Theory of Share Tenancy* (1969) included all of the thesis material, but two sections from the core chapter of the thesis were elaborated on and spread out over two additional book chapters. The first addition, Chapter 3, was a detailed literature survey of the economic treatment of share contracting, beginning with Adam Smith and other classical writers, and working its way through the neoclassical writings up to the 1960s. The second addition was Chapter 4, in which Cheung expanded a portion of the thesis where he had asked the following questions: “Why do share contracts usually predominate in agriculture? What determines the choice of contract? Why do the patterns of contractual choices differ greatly in various localities in Asia? (p. 56, 1967).

In this essay we examine the important ideas and the legacy of the 1969 book, rather than the 1967 thesis or the subsequent published papers. In particular, we focus on chapters 2-4 of the book when determining the contribution, insight, and legacy of Cheung's *Share Tenancy* ideas.<sup>1</sup>

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<sup>1</sup> Cheung has told us that his interest in share tenancy started from reading the literature on Taiwanese land reforms, and that he did not originally think of working on something so broadly applicable.

## II. Major Insights in “The Theory of Share Tenancy”

Although *Share Tenancy* was a study of agricultural contracting, its key theoretical and methodological insights are much broader. The three key chapters of the 1969 book contain five important ideas. These ideas would be exploited by others (and by Cheung in later works), and would become foundational to “the economics of property rights.”<sup>2</sup>

### 1. The Coase Theorem applied to Contracts

*... different contractual arrangements do not imply different efficiencies of resource use as long as these arrangements are themselves aspects of private property rights.*

[p. 4, 1969]

In Chapter 2 Cheung carefully modelled a share contract under the assumption of “zero contracting costs,” “private property,” and “free markets.”<sup>3</sup> He considered the problem from the landowner’s point of view, rather than the tenant (as was traditionally done). He also — and this was critical — considered the share tenancy arrangement as a contract subject to constraints; share tenancy in Cheung’s eyes was not an exogenous cultural tradition.

Cheung recognized that a share tenancy contract had several key terms: the share percent, the size of the land plot, and the amount of non-land inputs; and these terms were also constrained by the alternative earnings of the tenant and the market rental value of the land. Given the assumption of wealth maximization, the terms were simultaneously chosen and mutually agreed upon to maximize the joint wealth of the parties. Under these conditions, Cheung showed that in equilibrium the use

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<sup>2</sup> The “school of thought” flowing out of the work of Alchian, Barzel, Coase, Cheung, Demsetz, North, and others has never had a lasting name. Narrowly speaking it might be called “the Washington School” (North p. 27, 1990), but more broadly it is referred to as “the economics of property rights.” It is highly correlated with the literatures of “law and economics,” and the “new institutional economics.”

<sup>3</sup> These are the three assumptions made by Coase in the first sections of “The Problem of Social Cost.”

of resources was identical to all forms of private ownership: owner-operator farming, cash renting, or wage farming. Competition among landowners and farmers meant that each asset owner must receive their competitive rent in all contract forms, and this forced the optimal contract choice — otherwise losses would accrue to some party in the share tenancy arrangement.

To the best of our knowledge, the model in Chapter 2 was the first formal demonstration of the Coase Theorem in the context of contracts.<sup>4</sup> Cheung showed that when contracts are modelled correctly and when there were no transaction costs, the allocation of resources was driven by the assumption of wealth maximization, and the contract terms adjust to make certain that this outcome was achieved. As a result, the inputs used, the crop output, and the distribution of asset earnings were identical across different types of contracts. The cropshare contract provides exactly the same outcome as a cash rent or wage contract.

## 2. The Inappropriate Tax Equivalency Metaphor

*We cannot analyze the way a person uses resources without first specifying the nature of his property rights.*

[Cheung p. 31, 1969]

Cheung’s survey of the share cropping literature prior to 1960 stands alone for its thoroughness, and quite understandably no one has ever produced a second survey of this early literature on crop sharing.<sup>5</sup> However, Chapter 3’s significance rests in

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<sup>4</sup> In retrospect, it is interesting that Cheung did not make this claim at the time. Although Stigler only coined the term “Coase Theorem” in *The Theory of Price* (p. 113, 1966), Cheung has told us he was familiar with the name. In conversation with him, he said the connection did not occur to him. This lack of connection might have resulted from the general consensus in the late 1960s that Coase’s result was thought to only apply to negotiations over an externality. To our knowledge, the first person to acknowledge Cheung’s proof of the Coase Theorem was Silberberg (pp. 497–501, 1978). Modigliani and Miller (1958) proved that under a number of conditions (including what amounts to zero transaction costs), that the value of a firm was independent of the structure of firm financing. Cheung (1967, 1969) did not cite Modigliani and Miller (1958), which suggests Cheung (like everyone else) was unaware of the connection at the time.

<sup>5</sup> Although Stiglitz was prone to discount Cheung’s book, when it came to this chapter he described it as an “excellent discussion” (p. 219, 1974).

its *analysis* of earlier work, and Cheung’s stress on the importance of understanding the real world property right constraints present in a contract.

Cheung notes that since Adam Smith the general treatment was to consider the share as equivalent to an ad valorem tax. Such a “tax equivalence” approach, however, ignored the contractual reality of the tenancy arrangement. It constrained the economist to not consider that land or other inputs could be adjusted in response to changes in the rental share; that the share was determined endogenously by contracting parties; and that there were competitive pressures to maximize the wealth of the parties involved in the lease. Such an approach could only lead to a false conclusion: namely, that sharing was inefficient because tenant effort was suboptimal.

The tax equivalence approach had a number of implications. First, it implied that share tenants earned rents — returns above their opportunity costs — and therefore they should have competed to work on such farms. Second, land operated under share tenancy should have used smaller labor to land ratios compared to owner-operated or cash-rented land. Third, if the land was constrained under sharing, the land rents and land values should be lower for shared land. Finally, over time, inefficient sharing should die out as a practice/custom.

Cheung took care to point out the implications of the traditional tax approach. Furthermore, he highlighted a number of findings from China and Taiwan that suggested the traditional approach was wrong. He also wisely noted that sharing had not gone anywhere, and in fact, it existed in “retail stores, beauty salons, gasoline stations, amusement park rentals, and even the much regulated oil and fishery industries” (pp. 33–34, 1969).<sup>6</sup> Chapter 3 not only made a compelling case that the tax metaphor was inappropriate, it also drove home the idea that share tenancy was a type of contract. Contracts involve a delineation of rights,

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<sup>6</sup> *The Theory of Share Tenancy* contains many insightful side remarks like this. In this brief sentence Cheung recognized the contractual similarity across a wide range of production, the survival nature of sharing, and used this institutional detail to reject the tax equivalency framework.

and therefore, the proper way to think about various contract arrangements was to consider them as different distributions of rights.

### 3. The “Obvious” Logical Question: What Determines Contractual Form?

*Why are different contractual arrangements chosen under the same system of private property rights?*

[ p. 62, 1969]

It is clear from Chapter 2 that Cheung was well aware of the implication of Coase’s argument regarding liability in a world of zero transaction costs. However, Cheung appears to have been the first person to recognize the logical implication of Coase: what then explains the systematic pattern of contract choice?<sup>7</sup>

Although an obvious question in retrospect, it was not a major part of the 1967 thesis. Not only does the question and brief answer take up just four pages (pp. 56–60, 1967), but Cheung stated at the end: “At present I have not been able to piece the formal fragments together in a formal theory, due to some formidable problems in choice theory involving risk.” (pp. 58–59, 1967). Nor was the question obvious to Coase at the time. In his Nobel address, Coase credited Cheung for pointing out the significance of his work on social costs.

I should add that in writing this article I had no such general aim in mind. ... It was only later, and in part as a result of conversations with Steven Cheung in the 1960’s that I came to see the general significance for economic theory of what I had written in that article and also to see more clearly what questions needed to be further investigated.<sup>8</sup>

[Coase, p. 171 1992]

No doubt, the questions in need of investigation included that of contract choice.

While Cheung was first to explicitly address the question of contract choice, he noted that others had come close, such as Mill (1857), who wondered why the

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<sup>7</sup> A possible exception to this broad claim might be Demsetz (1964).

<sup>8</sup> Cheung was on the faculty at the University of Chicago from 1967-1969 and became friends with Coase.

*metayers* system had lasted and worked so well, and Johnson (1950) who pondered along the same lines regarding grain farmers in Iowa. From this point Cheung developed a theory based on a trade-off between risk and incentives (transaction costs) that was picked up by Stiglitz (1974), and became a key idea in the Principal-Agent paradigm.

#### 4. Wealth Maximization and Economic Efficiency

*It will be shown here, both theoretically and empirically, that the inefficiency argument is illusory.*

[pp. 3–4, 1969]

*The term “economic efficiency” ... is a condition of market equilibrium logically deduced from the theory of choice, subject to the constraint of private property rights under a freely competitive market. It is a positive term, devoid of welfare implications.*

[p. 159, 1969]

From beginning to end there was a powerful methodological point made throughout *The Theory of Share Tenancy*. If wealth maximizing landowners got together with wealth maximizing tenant farmers, and contracted over various terms in order that the tenant farmer might use the owner’s land, then the contractual outcome and subsequent resource allocation must be wealth maximizing — as a matter of logic. Cheung was not concerned with some type of Nirvana, first-best, wealth maximization.<sup>9</sup> In explicitly recognizing wealth maximizing behavior subject to constraints, he was arguing that outcomes are “constrained efficient.” To construct a model in which all of the agents maximized some objective subject to constraints, and somehow these agents failed to maximize, would imply a logically incoherent model.

Cheung argued that any constrained equilibrium must be efficient, and therefore, efficiency was a redundant term lacking any sort of normative or welfare content. To say that an outcome was efficient, was only to say that the individuals maximized.

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<sup>9</sup> Cheung may have picked up on this idea from Demsetz (1969).

This important idea binds the options of an economist. When wealth maximization is *assumed*, then all outcomes must be efficient, and the economist does not have the freedom to claim otherwise. Hence when an economist sees strange behavior like long lasting cropsharing, the natural reaction should be “Why does an odd behavior persist?” That is, the operating assumption should force the economist to focus on explanation. In discussing the short term nature of leases Cheung stated “Thus the relevant question here is not whether a “short-term” lease is inefficient; the relevant question is why different lease durations are chosen.” (p. 81, 1969). Cheung’s methodology forced him to ask the appropriate question for furthering the understanding of contracts.<sup>10</sup>

## 5. The Relationship Between Transaction Costs and Property Rights

*Included in the general term “contracting cost” are the costs of negotiating and the costs of enforcing the stipulations of the contract. I shall discuss these and other problems of transaction cost ...*

[p. 16, 1969]

The most important idea found in *The Theory of Share Tenancy* was also the most subtle: the relationship between property rights and transaction costs. Although it would take another twenty years before all of the details would be worked out, Cheung pioneered bringing the concepts of transaction costs and property rights together in a manner unlike earlier scholars. Prior to Cheung the two streams of literature on transaction costs and property rights ran quite independently of each

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<sup>10</sup> To ignore the logical insistence of efficiency invites “passing judgment.” Cheung even chastised Adam Smith on this point.

... the appropriate approach in analyzing land tenure development is to trace the alterations in property laws; and not, as Smith did, to interpret (or advocate) the change in laws by tracing what might appear to be defective leasing arrangements.

[p. 33, 1969]



other.<sup>11</sup>

Allen (1999) provided a history of the term “transaction costs,” and showed that it was introduced by Hicks (1935) to mean *exchange frictions*. By the 1960s very few economists thought otherwise, including Demsetz (1964, 1968).<sup>12</sup> There were several consequences of this definition. First, with this notion, transaction costs simply act as “tax” on trading, which lower the volume of trade and drive a wedge between buyer and seller prices. Second, these transaction costs only apply to *market* trades, and so any “organizational” costs *within* the firm are confusingly considered something other than a “transaction cost.” Finally, these types of costs conflate transaction costs with simple frictions, which are analytically trivial, often empirically unimportant, and always irrelevant to questions of organization.

It is unfortunate that Coase never defined what he meant by the term “transaction costs” because with only the Hicksian notion of transaction costs in mind, no economist can make sense of Coase’s contribution to understanding the logic of organization. The problem is that this type of cost is neither necessary nor sufficient to violate the Coase Theorem. Indeed, most of the “disproofs” of the Coase Theorem start with the friction notion of transaction costs, and then have no problem showing a contradiction or a logical inconsistency.<sup>13</sup> Without an understanding of the zero benchmark case of zero transaction costs, the subsequent points in Coase’s article do not follow.

Whereas the idea of “transaction costs” originated with Hicks and Coase in the 1930s, the concept of an “economic property right” originated with Armen Alchian. Alchian had read Pollock and Maitland’s (1895) history of English law, and started to think about rights, not only as defined under the law, but also through customs

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<sup>11</sup> The separation is also not completely gone. The transaction cost literature based on Williamson’s work ignores most of the work done in property rights, and the “property rights” literature following Hart is also on a separate path from the transaction costs notions of Coase.

<sup>12</sup> Even as late as 1987, the New Palgrave Dictionary would define transaction costs as the costs of transferring property rights in a market. See Niehans (1987).

<sup>13</sup> See, for example, Cooter (1982).

and norms. Alchian wrote on tenure (Alchian 1958), pursuit of utility in regulated firms (Alchian and Kessel 1962), and property rights explicitly (Alchian 1965), and he came to see a property right as “a socially enforced right to select uses of an economic good” (Alchian 1987). Although Alchian made occasional reference to Coase, it was not in any significant way, and it remains unclear whether Alchian ever made the connection between his work and Coase’s prior to 1970.

However, the two ideas are deeply related. As Allen (1991, 1999) and Barzel (1997) have pointed out, transaction costs and property rights are two sides of the same coin. An economic property right is the expectation that a decision over a thing will be freely exercised. The extent of this expectation has come to be known as the degree of “perfection” of the property right.<sup>14</sup> If the expectation is one, then a property right is perfect, and the decision will be carried out with certainty. If the expectation is zero, then the economic property right does not exist. This means that the degree of property right perfection ranges from zero to one, and that the value of a property right increases in the perfection dimension. The extent of a property right depends on the efforts made to establish the right and to maintain them, and the costs of these efforts *are* the transaction costs (Allen 1991). Cheung implicitly saw this relationship in 1967/69.

In the 1967 thesis, the term “transaction cost” appears eight times. The term was never explicitly defined, and in only three instances can a meaning be implied. Consider the following two examples:

[share contracting] obviously involves a higher transaction (contracting) cost for the landowner to enforce a share contract than a ground rent contract: stipulations are in greater detail, and efforts must be made to investigate agricultural output so as to guard against fraud by the tenant

[pp. 56–57, 1967]

... it seems that in general the transaction cost of a wage contract is also higher than a ground rent contract due to the cost of labor management.

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<sup>14</sup> A property right is said to be “complete” if all the attributes of a thing are owned; that is, no attribute lies in the public domain. See Allen (2015) for an elaboration.

[p. 57, 1967]

In both of these cases Cheung clearly understood that transaction costs result from enforcing and maintaining property rights. In the first case the landowner must enforce rights over the rent, and must monitor the incentive of the tenant to under-report the crop.<sup>15</sup> In the second case, a landowner has to manage workers to prevent shirking, a type of theft.

In the 1969 book, Cheung's treatment of transaction costs is more extensive than the thesis, and the number of places in which the connection with is made is greater. Cheung has several passages that clearly linked property rights to transaction costs.:

Included in the general term "contracting costs" are the costs of negotiating and the costs of enforcing the stipulations of the contract.

[p. 16, 1969]

The analysis thus far has been primarily based on the condition that transaction costs, and in particular the costs of contractual negotiation and enforcement, are zero.

[p. 62, 1969]

A second reason ... is the different transaction costs that are associated with each. Transactions costs differ because the physical attributes of input and output differ, because institutional arrangements differ, and because different sets of stipulations require varying efforts in enforcement and negotiation.

[p. 63, 1969]

... a landowner, ... may charge only a flat fee and allow the tenant to use the quantity of water freely. ... because the transaction or enforcement cost of quantification ... is so high .... Under this form of contractual payment, the water resource will be used by the tenant until its marginal product is zero, even though the marginal factor cost of the water is positive.

[p. 65, 1969]

The last quote is an articulation of moral hazard. Moral hazard, in 1969, was almost unheard of outside of the insurance industry and would not hit mainstream

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<sup>15</sup> Allen and Lueck (1992) argued that crop under-reporting was a critical factor in explaining contract choice. At the time we had not read the 1967 thesis. For some reason this articulation was dropped in the book and replaced by the single sentence, "And since in a share contract the sharing of output is based on the *actual* yield, efforts must be made by the landowner to ascertain the harvest yield." Either way, Cheung deserves credit for noting this important problem with sharing.

economics for another decade.<sup>16</sup> Furthermore, later researchers would find that moral hazard is a key factor in understanding the choice of agricultural contracts. Although in all cases the relationship between transaction costs and property right is implicit, the connection is there. This connection is vital for an understanding of institutional economics.

### III. “The Theory of Share Tenancy” and Coasean Logic

The five ideas found in *The Theory of Share Tenancy* remain important because they are foundational to the economic understanding of organization. All forms of organizations can be thought of as sets of property rights. These sets of rights may vary in complexity, but they define the incentives of those who makes decisions over the assets, and therefore, determine the levels of wealth generated. A theory that explains the distribution of any set of property rights, is a theory of economic organization.

Over the past fifty years such a theory has been developed, and may generally be called institutional or organizational economics. The core of this theory is what we call a “Coasean logic.” Such a logic would go as follows:

- When transaction costs are zero property rights are perfect, and the allocation of resources is independent of any distribution of property rights (the “Coase Theorem”).
- When transaction costs are positive, at the margin, every distribution of property rights is imperfect and the allocation of resources depends on the given distribution of property rights.
- Therefore, every possible distribution of imperfect property rights is associated with a resource allocation, a wealth level, and a specific level of transaction costs.

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<sup>16</sup> Although Arrow (1963) discusses moral hazard in the health industry, our search shows fewer than five other economic papers in the 1960s deal with the subject, and all of them are papers about health insurance.

- Finally, the observed distribution of property rights results from maximizing wealth net of transaction costs.<sup>17</sup>

The conclusion of this Coasean logic is the general theory of organization in institutional economics. In this theory, positive transaction costs are a *necessary* component to any explanation of organization.<sup>18</sup> If transaction costs are zero, then property rights do not matter and wealth is maximized. When transaction costs are positive, the property rights are not perfect, and the level of wealth depends on the distribution of these rights.<sup>19</sup>

All of the core ideas and the general argument of this Coasean logic are implicitly found in *The Theory of Share Tenancy*. Cheung proved the first point in Chapter 2. He argued throughout the book in the general discussion that changes in transaction costs lead to different abilities to carry out actions on a farm. And he implicitly argued that wealth was maximized when transaction costs were zero, and that better defined rights lead to greater levels of wealth. Finally, in Chapter 4 he recognized that transaction costs were necessary to explain why one contract is chosen over another. Although this Coasean logic was not made explicit or formal in the book, all of the elements were there.<sup>20</sup> In this way, the whole of the book is greater than

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<sup>17</sup> One might call this last point the “real Coase Theorem.” Coase summed it up this way: “... when the costs of market transactions are taken into account ... the problem is one of choosing the appropriate social arrangement for dealing with the harmful effects.” (p. 118, 1988).

<sup>18</sup> Institutional purists, like us, would also argue that these costs should be sufficient. Transaction cost arguments alone can explain organization, and there is no need to supplement them with other complexities like risk aversion. See Allen and Lueck (2002) for a defence of this position.

<sup>19</sup> The reverse is not true, see Allen (2015) for an explanation.

<sup>20</sup> This line of reasoning is found more explicitly in Cheung’s later writings. See for example, Cheung (1974). All of this is perhaps not too surprising given what Cheung has shared about his phd studies and interaction with Coase. In Cheung (p. 9, 2016), he states:

My deep understanding of Ronald’s 1960 paper ignited a friendship ... in the fall of 1967, when I walked into Ronald’s office at the Chicago Law School and introduced myself: “Professor Coase, my name is Steven Cheung, a student of Alchian, I had spent several years reading your paper on social cost.” He was sitting and reading, raising his head, and asked: “What did I say in that paper?” I replied, “Your paper is about the constraints subject to which contracts are

the sum of the parts, and the book deserves to be considered a watershed in the intellectual development of institutional economics.

#### IV. The Legacy of “The Theory of Share Tenancy”

In the Western academic tradition, one measure of legacy is citation counts. *The Theory of Share Tenancy* has a 965+ google scholar citations, and the two papers embedded in the book have (374) and (624) cites respectively. Table 1 shows the citations for *Share Tenancy* and Cheung’s other works that have at least 100 citations, along with the top few citations for Nobel Laureates Coase, North, and Williamson who won the prize for their work on property rights, contracts, and organization for comparison. Each has considerably more citations than Cheung.

Citations, however, are only one measure of impact. Although some of Cheung’s ideas are almost ignored, others are embedded in the profession. For example, his formal demonstration of the Coase Theorem and his methodological position on economic explanation are generally unknown, or ascribed to Demsetz. His contributions to contracts and the nature of the firm, however, are enduring.<sup>21</sup> And, as mentioned, the simple trade-off between risk and incentives — although seldom attributed to Cheung — is the backbone idea of modern contract theory.<sup>22</sup>

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made.” He stood up, and said, “At long last somebody understands me. Let us go to lunch.”

<sup>21</sup> For example, it is now received wisdom to view crop sharing as a contract. Even Young and Burke (2001), who claimed that the persistence of a few “simple” shares in Midwest cropshare contracts was the result of local “customs,” still consider cropshares as a contract. Allen and Lueck (2009) examine this question with a transaction cost approach.

<sup>22</sup> *The Theory of Share Tenancy* receives almost no credit for first articulating this hypothesis. For example, the recent edited *Handbook of Organizational Economics* by Gibbons and Roberts, gives Cheung no credit. Stiglitz (1974) only notes in a footnote that Cheung’s work was “important” but “His conclusions closely parallel those reached by this study.” In his Nobel address Stiglitz stated in a footnote “There was one brilliant, valiant attempt to show that sharecropping did not matter, a thesis by Steven Cheung .... The unreasonable assumptions, especially concerning information, helped convince me of the need for an alternative theory.” (p. 473, 2001). The irony, of course, is that *Share Tenancy* stresses getting facts straight, and Chapter 4 revolves around the notion that sharecropping matters.

Table 1: Google Citations for Cheung and Related Nobel Laureates

Publication	Google Cites
<u>Cheung</u>	
“The contractual nature of the firm” (1983)	1,637
“The Structure of a Contract and the Theory of a Non-exclusive Resource” (1970)	1,002
<i>The Theory of Share Tenancy</i> (1969)	966
“Transaction costs, risk aversion, and the choice of contractual arrangements” (1969)	624
“The theory of price control” (1974)	461
“The fable of the bees: An economic investigation” (1973)	451
“Private property rights and sharecropping” (1968)	374
“The transaction costs paradigm 1998 presidential address” (1998)	157
<i>Economic organization and transaction costs</i> (1989)	141
<i>The Myth of Social Cost</i> (1978)	135
<u>Coase</u>	
“The Nature of the Firm” (1937)	37,615
“The Problem of Social Cost” (1960)	31,002
<u>North</u>	
<i>Institutions, Institutional Change and Economic Performance</i> (1990)	58,836
<i>The Rise of the Western World</i> (1973)	5,610
<u>Williamson</u>	
<i>The Economic Institutions of Capitalism</i> ( 1985)	43,430
<i>Markets and Hierarchies</i> (1975)	39,455

There are several reasons for the seemingly limited legacy. First, the sophisticated discussion of transaction costs found throughout the book are sometimes in conflict with more ambiguous statements, and the formal linkage between transaction costs and property rights is never *explicitly* stated. Second, the strong demonstration of the Coase Theorem in Chapter 2 over-constrained the analysis elsewhere.<sup>23</sup> Third, in many ways *Share Tenancy* was ahead of its time in both its approach and subject matter, and therefore, there was a general lack of professional interest in the central question. Finally, Cheung moved away from the explicit study of share tenancy, was not a big promoter of his work, and left for China after a relatively brief career in the United States. These actions effectively removed *Share Tenancy* from most economist's radar. Taken together, most western economists in the decade following the publication of *Share Tenancy* were simply incapable or unwilling to fill in the gaps and grasp the real contribution of the book.

### 1. Ambiguity Over Transaction Costs and Property Rights

As mentioned, Cheung's treatment of transaction costs and property rights was sophisticated for its time. However, his understanding of transaction costs was limited and naturally evolving, even between the thesis and the book. As a result, the linkage between transaction costs and property rights was never made explicit in either document. In addition, Cheung's treatment of transaction costs was not always consistent with the property right perspective, and sometimes was more in line with the Hicksian notion. This ambiguity no doubt hindered others in seeing the connection between transaction costs and property rights. Had Cheung been more systematic in defining these terms and had he explicitly linked them together, the significance of his book may well have been larger.

Of the three mentions of transaction costs in the thesis that imply some definition, the two referred to above imply a link with the enforcement of rights. However, the third mention of transaction cost was more ambiguous.

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<sup>23</sup> Interestingly, this same feature is present in Modigliani and Miller, who thought that in the real world the financial structure of the firm was irrelevant to the value of the firm.



However, we never observe tenants' dispersing their inputs to so many farms as described because transaction cost, and in particular the cost of moving from farm to farm, is not zero.

[p. 55, 1967]

Here a transaction cost includes "moving costs," which are essentially a neoclassical Hicksian friction. Such costs exist even in a world of perfect property rights, and such costs have nothing to do with organization, *per se*. It is interesting to note that in the 1969 book this line was changed to:

However, we never observe tenants' dispersing their inputs among many farms as described because transaction costs, and in particular the cost of contracting and the cost of moving from farm to farm, are not zero.

[p. 55, 1969]

The addition of "the cost of contracting" added confusion, not clarity. From this statement it would appear that either transaction costs include a friction cost, or contracting costs are different from transaction costs.

In the 1969 book there were more statements regarding a relationship between transaction costs and property rights, but there were also more statements regarding transaction costs that hinted at a Hicksian or neoclassical understanding of the term. Consider:

Transaction costs may also depend on ... the number of participants and transactions .... Changes in prices and innovations will also affect the costs of transactions.

[p. 64, 1969]

... with transaction costs there may not exist a uniform factor price in the market, and the buyer's price may differ from the seller's price .... transaction costs [may be] so high as to prohibit transfers of resource rights.

[p. 65, 1969]

Second, with respect to transaction costs, a more general analysis would derive some specific and well-behaved cost function of transactions.

[p. 86, 1969]

These quotes can again be interpreted as following from a tax/neoclassical treatment of transaction costs that drive a wedge between prices. We are not critical of

Cheung here. Although Hicks had introduced the term “transaction costs” in the 1930s, almost nothing had been done with the term until the 1960s, and only by a few economists. Cheung was the first, in our minds, to seriously consider the enforcement of property rights as a serious component of transaction costs. Our point is that, for most economists, Cheung’s extension was not complete, and therefore, was not sufficiently appreciated.

## 2. How The Formal Model Constrained the Analysis

A second feature of *The Theory of Share Tenancy* which likely hindered the ability of the general profession to understand it, stems from the application of the zero transaction cost modelling of Chapter 2 to situations in which transaction costs were not zero. Consider the discussion at the end of *Share Tenancy’s* Chapter 2 , in which the context suggests the discussion has moved to the “real world.” Here Cheung asked the question “What are the differences between fixed-rent and share contracts?” He then claims that the,

basic difference ... lies in how the chosen labor-land ratio ... is expressed. With fixed rent, ... the tenant states how much land he will employ, and he alone decides ... the amount of nonland inputs to be committed for every production run. Under share tenancy, however, the landowner and the tenant mutually decide the intensity of nonland to land inputs. ... the same resource use is implied.

[p. 27, 1969]

But of course, such a difference only necessarily existed in the zero transaction cost model that was just articulated. In real contract situations, where transaction costs are always positive and the profit maximizing contract is chosen, landowners and tenants will not necessarily agree over the amount of labor effort or other nonland inputs that must be used. Indeed, it is common for no direct landowner intervention in many modern cropshare contracts.<sup>24</sup> Cheung’s zero transaction cost model was clearly influencing what he expected to see in the real world.

In Chapter 3’s discussion of Arthur Young’s travel writings, Cheung notes

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<sup>24</sup> This is a finding in Allen and Lueck (2002).

Whereas Young might have allowed his emotion to run away with his judgment, some of his observations could have hinted to later writers that fixed and share rents yield the same intensity of nonland inputs should the constraints of competition be equal.

[p. 36, 1969]

Cheung's phrase "constraints of competition" could imply a zero transaction costs situation, but the context suggested otherwise: Young was describing real contracts. But these real contracts were endogenously chosen in specific circumstances, among specific farmers and landowners. Within a given circumstance, the cash rent contract may have been the wealth maximizing contract. If a cropshare contract was exogenously imposed on the contracting parties in this circumstance, the joint wealth level would be lower. That is, in the real world of positive transaction costs, the observed sample of contracts is biased: namely the ones that maximize wealth net of transaction costs. Hence, there is no reason to believe that nonlabor inputs would be used in the same intensity across the different contracts. And if they were found to be so, it would be a matter of coincidence in the circumstances.<sup>25</sup>

In another example, consider Cheung's formal set up in Chapter 2, where the landowner and the tenant jointly decide on i) the size of the plot to be leased, ii) the rental share, and iii) the amount of nonland inputs to be used. In the formal model, land was really one-dimensional: its physical size. In the real world, land has a multitude of dimensions, each of which can be exploited within a contract. However, given the assumed single characteristic of the land in the model, when Cheung explicitly considered the transaction costs across various contracts he concluded:

Contracting on a share basis appears to involve higher transaction costs as a whole ... than a fixed-rent or a wage contract. The terms in a share contract, among

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<sup>25</sup> In Chapter 4 Cheung recognizes that transaction costs vary across circumstances.

Transactions costs differ because the physical attributes of input and output differ, because institutional arrangements differ, and because different sets of stipulations require varying efforts in enforcement and negotiation.

[pp. 63–64, 1969]

other things, include the rental percentage, the ratio of nonland input to land, and the types of crops to be grown. ... And since in a share contract the sharing of output is based on the *actual* yield, efforts must be made by the landowner to ascertain the harvest yield. Thus negotiation and enforcement are more complex for a share contract than for a fixed-rent or a wage contract.

[p. 67, 1969]

This relative complexity of cropsharing, however, was the result of assuming land was one dimensional and that measurement of plot size was trivial.<sup>26</sup> Given the simple view of the land asset, the transaction costs of a fixed-rent contract were hidden, and led Cheung to conclude:

... if transaction cost is the only consideration then the minimization of transaction cost implies that share contracts will never be chosen.

[p. 68, 1969]

This conclusion forced Cheung's hand, and he introduced a trade off with risk aversion.

What is interesting, is that in his general theoretical discussions in *The Theory of Share Tenancy*, Cheung actually recognized the various dimensions on which a tenant farmer might exploit the land owner. For example, he mentioned that land contains water, and this water would be over-used if not measured and priced by the landowner (p. 65, 1969). It would be another twenty years before other economists recognized these issues.<sup>27</sup>

### 3. A Theory Ahead of its Time?

*The Theory of Share Tenancy* contained pioneering ideas. It formally demonstrated the Coase Theorem in the context of contracts when most had not heard of

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<sup>26</sup> Plot size is trivial within the context of a specific land contract. In general, the problem of land demarcation can be complicated and costly. See Libecap and Lueck (2011).

<sup>27</sup> Eswaran and Kotwal (1985) were the first economists to use a type of double moral hazard model without risk aversion to examine share contracts. Allen and Lueck (1992) also brought together the multiple characteristics of land with the under reporting of crops in their model of cropshare contracts.

the term. It introduced the idea of understanding formal and informal contracts, when “contract” in economics only referred to the “contract curve” of an Edgeworth Box. It promoted the idea of economic explanation and empirical testing, even in the context of developing Asian agrarian economies, when the trend was to think of such places as dual economies with under-employment and the policy implications that followed. It investigated contract choice and contract duration when no one had even considered such questions.<sup>28</sup> And it brought together the ideas of transaction costs and property rights, and laid down the foundation of what would become institutional economics.

The problem with being ahead of his time was that most people were uninterested in what was being accomplished. If Cheung had written *The Theory of Share Tenancy* even a decade later, the response might have been much greater.<sup>29</sup> Added to the problem of being ahead of his time and that some in the contract literature discounted his contributions, was that Cheung was isolated in the Pacific Northwest at the University of Washington, and he was wont to remain in Seattle and not promote his work on the seminar circuit. In an age of costly travel and postal service, Cheung’s immediate audience was limited. Still, in Yoram Barzel and Douglass North he found some fertile and receptive ground.

Finally, one must wonder about the choice of titles in Cheung’s work. Cheung was always interested in specific problems because he viewed economics as a means of understanding particular instances of behavior. This is reflected in his titles, which most often make reference to the specific subject of interest. Hence, there are theories of share tenancy, price controls, and theatre pricing. However, in almost

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<sup>28</sup> It is beyond the scope of this paper, but some interesting history of thought questions are: why did so few economists care about organizational and institutional questions at the time; what was the influence of Alchian and the general UCLA program on Cheung’s research interests; and why did Cheung study contracts in the context of Chinese agriculture rather than some other market that might have had more general appeal?

<sup>29</sup> Contrast this with North, who published his major 1990 work on institutions and economic growth right after the fall of the Berlin wall and during the search for institutions to replace communism in Eastern Europe. An intellectual legacy is like a good joke, timing is everything.

all of Cheung’s work, the arguments are broad and applicable to a wide range of subjects.<sup>30</sup> As we’ve argued here, *The Theory of Share Tenancy* is actually a book on the theory of any organization. It is reasonable to think that the specific titles failure to signal the broader ideas may have also reduced the exposure of Cheung’s ideas. It is interesting, from Table 1, that the most cited works are the ones with the most general titles.

## V. Conclusion

The legacy of *The Theory of Share Tenancy* may seem relatively small when looking for direct Western scholarly effects, but Cheung’s influence in China should also be taken into account. When Cheung left the University of Washington for the University of Hong Kong in 1982, he began reaching out to a wider audience in an effort to educate the public and policy makers on the nature of contracts and property rights. His efforts included the coordination of the meeting between Milton Friedman and Premier Zhao Zhiyang in 1988,<sup>31</sup> running one of the most popular economic blogs in China,<sup>32</sup> and putting together a collection of economic essays in Chinese (Cheung 2010) that influenced a generation of Chinese economists. Cheung’s work in China emphasized that property rights are complex bundles that can be separated. In particular, title can be separated from use rights, and this distinction was useful in the economic reforms of the 1980s. In this respect Xu makes the following assessment:

...[Cheung] has remained a key figure for studying China’s transition and disseminating the property rights paradigm to a Chinese audience. The influence of his work on China deserves a separate paper, and would be perhaps harder to quantify. But the importance of this work is easy to predict: rising over time.

[p. 73, 2016]

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<sup>30</sup> For example, although Cheung (1974) certainly discusses the economics of price controls, the first half of the paper is a general discussion of transaction cost economics.

<sup>31</sup> Cohen, 2017.

<sup>32</sup> <http://blog.sina.com.cn/u/1199839991>.

Hence, the ideas originating in *The Theory of Share Tenancy* and developed in his subsequent work (including, of course, “Will China Go Capitalist”) can be seen throughout China today.<sup>33</sup> How much of the China miracle can be attributed to the ideas of Steven Cheung is something we cannot estimate, but they surely were important.

Cheung’s legacy in China was not the only indirect impact of *The Theory of Share Tenancy*. When Cheung went to the University of Washington he interacted with his colleagues, and two of them seem to have grasped Cheung’s ideas and pushed them further. Yoram Barzel was a Chicago trained economist interested in estimating production and cost functions when he came to Washington almost a decade ahead of Cheung. In 1968 he published his famous paper on rushing to innovate, which demonstrated an interest in the question of establishing property rights. Clearly, by 1974 with the publication of his paper on rationing by waiting, Barzel was thinking in a sophisticated way about property rights and transaction costs, and Cheung must have played a strong role in this conversion. One of the interesting differences between the two is that Cheung was always good at coming up with transaction cost questions (“why is one contract chosen over another?”), while Barzel had a comparative advantage in coming up with solutions.

Douglass North, whose early work on pirates showed that he was also sympathetic to the notion of “transaction costs,” was strongly influenced by Cheung. In North one sees a steady progression in his thinking on what he called “institutions” — humanly devised constraints (property rights). In his early 1973 book with Robert Thomas, North mostly used a neoclassical price searching model, and explained many historical institutions as forms of price discrimination. His 1990 book on institutions is in steep contrast. In this book North views institutions as set of property rights, endogenously determined, and constrained by a variety of environmental factors. North never hid the fact that he was influenced by Cheung,

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<sup>33</sup> See Cheung (2014) for a discussion of Cheung’s role and ideas on China’s reform.

and his genius may have been in taking some of these ideas and applying them to nations, sweeping historical events, and most importantly, economic development — matters that the economic profession found interesting. The interesting question that we cannot answer is this: would North and Barzel have ended up having the influence they did without Steven Cheung and *The Theory of Share Tenancy*? It seems unlikely.

Finally, Cheung’s legacy is also through indirect embedded ideas. *The Theory of Share Tenancy* contained some important insights. Although these insights may not have been fully worked out, they laid the foundation for future work (including, of course, work by Cheung). For example, although not explicitly stated, *Share Tenancy* contains all of the elements of Coasean logic: namely, if under the assumption of zero transaction costs all variations of property rights are equivalent, then positive transaction costs are *necessary and sufficient* to explain the variations in property rights that we observe.<sup>34</sup> Coasean logic is found everywhere in economic explanations of organization, but seldom with attribution to Cheung. Cheung deserves credit for his early advances in this reasoning, even though the idea is embedded in the profession.

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<sup>34</sup> Cheung made this connection more explicit in his 1974 paper on price controls.



## References

- Alchian, A.A., "Some Economics of Property Rights," *Il Politico* 30, 1965: 816–829.
- , "Private Property and the Relative Cost of Tenure," in P. Bradley (ed.) *The Public Stake in Union Power*, (Charlottesville, The University Press of Virginia, 1958:350–371).
- , "Property Rights." in S. Durlauf and L. Blume (eds) *The New Palgrave Dictionary of Economics*, (Macmillan, 1987).
- and Kessel, R., "Competition, Monopoly and the pursuit of Money," *Aspects of Labor Economics*, Princeton, Princeton University Press, 1962: 157–175.
- Allen, D. W., "What Are Transaction Costs?" *Research in Law and Economics* 14, 1991:1–18.
- , "Property Rights, Transaction Costs, and Coase: One More Time" in Steven Medema (ed.) *Coasean Economics: Law and Economics and the New Institutional Economics* (Kluwer Academic Publishers), 105–118.
- . (1999), "Transaction Costs" *Encyclopedia of Law and Economics*, (Kluwer Academic Press, 1998).
- . "The Coase Theorem: Coherent, Logical, and Not Disproved" *Journal of Institutional Economics* 11(2), 2015:379–390.
- . and D. Lueck. *The Nature of the Farm: Risk, Contracts and Organization in Modern Agriculture* (Cambridge: MIT Press, 2002).
- . "Custom and Incentives in Contracts" *American Journal of Agricultural Economics* 91(4) November 2009: 880–894
- Arrow, K. "Uncertainty and the Welfare Economics of Medical Care." *American Economic Review* 53(5) 1963: 941–973.
- Barzel, Y., "Transaction Costs: Are They Just Costs?" *Journal of Institutional and Theoretical Economics* 141(1), 1985: 4–16.
- . *Economic Analysis of Property Rights* 2nd Edition (Cambridge: Cambridge University Press, 1997).
- Coase, R. H., "The Nature of the Firm," *Economica* 4, 1937:386–405.
- , "The Problem of Social Cost," *Journal of Law and Economics* 3, 1960:1–44.
- , *The Firm, The Market, And The Law* (The University of Chicago Press, Chicago, 1988).
- Cheung, N.S., "The Theory of Share Tenancy — With Special Application to the First Phase of Taiwan Land Reform" (UCLA Dissertation, 1967)
- . "Private Property Rights and Sharecropping," *Journal of Political Economy*, 76(6), 1968: 1107–1122.

- . *The Theory of Share Tenancy — With Special Application to the First Phase of Taiwan Land Reform* (Chicago: University of Chicago Press, 1969).
- . “Transaction Costs, Risk Aversion, and the Choice of Contractual Arrangements,” *Journal of Law and Economics*, 12(1), 1969: 23–42.
- . “The Structure of a Contract and the Theory of a Non-exclusive Resource.” *Journal of Law and Economics*, 1970: 49–70.
- . “The Fable of the Bees: An Economic Investigation.” *Journal of Law and Economics*, 1973: 11–33.
- . “The Theory of Price Control.” *Journal of Law and Economics*, 1974: 53–71.
- . *The Myth of Social Cost*. (Institute of Economic Affairs, 1978).
- . “The Contractual Nature of the Firm.” *Journal of Law and Economics*, 1983: 1–21.
- . *Economic Organization and Transaction Costs*. (Palgrave Macmillan, 1989).
- . “The Transaction Costs Paradigm,” *Economic Inquiry*, 1998: 514–21.
- . *Orange Sellers Say* (China Citic Press, 2010).
- . “The Economic System of China,” *Man and the Economy* 1(1), 2014: 1–49.
- Cohen, M. *Competing Economic Paradigms in China: The Co-Evolution of Economic Events, Economic Theory and Economics Education, 1976–2016* (Routledge Contemporary China Series, 2017).
- Cooter, R. “The Cost of Coase” *Journal of Legal Studies* 11 January 1982.
- Demsetz, H., “The Exchange and Enforcement of Property Rights,” *Journal of Law and Economics*, 1964:11–26.
- , “The Cost of Transacting,” *Quarterly Journal of Economics* 82, 1968:33–53.
- , “Information and Efficiency: Another Viewpoint” *Journal of Law and Economics* April, 1969:1–22.
- Gibbons, R. and J. Roberts, (eds). *The Handbook of Organizational Economics* (Princeton: Princeton University Press, 2013)
- Hicks, J.R., “A Suggestion For Simplifying the Theory of Money,” *Economica* 2(1), 1935:1–19.
- Libecap, G. and D. Lueck. “The Demarcation of land and the Role of Coordinating Property Institutions,” *Journal of Political Economy* 119(3), June 2011: 426–467.
- Mill, J. S. *Principles of Political Economy* 4th ed., (London: Parker and Son, 1857).
- Modigliani, F. and M. Miller. “The Cost of Capital, Corporation Finance and the Theory of Investment” *The American Economic Review*, 48(3), 1958: 261–297.

- Niehans, J., “Transaction Costs,” in Eatwell, Milgate, and Newman (eds.), *The New Palgrave: A Dictionary of Economics*, New York, The Macmillan Press, 1987: 676–679.
- North, D. *Institutions, Institutional Change and Economic Performance* (Cambridge: Cambridge University Press, 1990).
- Pollock, F. and F. Maitland. *The History of English Law Before the Time of Edward I* (Cambridge: Cambridge University Press, 1895).
- Silberberg, E. *The Structure of Economics: A Mathematical Analysis* (New York: McGraw-Hill, 1978).
- Stigler, G. *The Theory of Price* 3rd Edition (New York: Macmillan, 1966).
- Stiglitz, J. “Information and the Change in the Paradigm in Economics”, Prize Lecture, December 8, 2001. Available at [www.nobelprize.org](http://www.nobelprize.org).
- . “Incentives and Risk Sharing in Sharecropping” *The Review of Economic Studies* 41(2), 1974: 219–255.
- Xu, L. C. “Cheung, Becker and Marriage” *Man and the Economy* 3(1), 2016: 65–76.
- Young, H. P. and M.A. Burke. “Competition and Custom in Economic Contracts: A Case Study of Illinois Agriculture.” *American Economic Review* 91(3), 2001:559–573.