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Contract duration and the division of labor in agricultural land leases

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Abstract

Short-term contracts provide weak incentives for durable input investment if post-contract asset transfer is difficult. Our model shows that when both agents provide inputs, optimal contract length balances the weak incentives of one agent against the other's. This perspective broadens the existing contract duration literature, which emphasizes the tradeoff between risk sharing and contracting costs. We develop hypotheses and test them based on private grazing contracts from the Southern Great Plains. We find broad support for the implications of our model. For example, landowners provide durable land-specific inputs more often under annual than multi-year contracts.

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1. Introduction

In his seminal article on agricultural land leases, Cheung (1969) discusses the choice of contract duration as a component of contract design. He argues that long leases are chosen when the costs of transferring tenant assets attached to the land are high, or if the depreciation of assets beyond the contract period are difficult to assess and therefore difficult to price for transfer to the landowner. On the other hand, short-term contracts reduce the costs of enforcing contract stipulations and the costs of renegotiation or tenant dismissal in the face of market uncertainties, poor tenant performance, or disputes over poorly defined rights to assets. When the tenant's land-specific assets are exhausted within the contract period or if the landowner provides the land-specific permanent assets, then short-term contracts become more viable.

Agricultural contracts have been an epicenter of empirical research on contract design and analysis of the relative importance of risk preferences and transaction costs as determinants of contract design (Rao, 1971; Allen and Lueck, 1995, for example).[4] This empirical literature has focused primarily on the choice between cash rent and crop share contracts, and on the parallel issue of input cost sharing as an element of contract design. The emphasis in this literature is the extent to which contracts are designed to address tradeoffs between aligning incentives by specifying parallel cost share arrangements on one hand and contracting costs on the other during the contract period.

Researchers have recognized an important distinction regarding how inputs are provided. In some cases, input costs are not readily shared, and "nonmarket" inputs are provided by either the tenant or the landowner directly (Reid, 1979; Eswaran and Kotwal, 1985; Allen and Lueck, 1993, for example). When these nonmarket inputs are part of contractual responsibilities, contract duration can become important. In particular, if the productive life of inputs extends beyond the contract period and if post-contract transfer of asset rights is difficult, the extent to which tenant or landowner becomes residual claimant of input productivity depends on contract duration. This affects incentives for input provision by each party to the contract.

The empirical literature examining the relationship between contract duration and the division of input responsibilities is thin. Allen and Lueck (1992) is one empirical analysis of agricultural land contracts that examines contract duration explicitly. Their premise is that the choice of contract length depends primarily on three factors: (1) mutual information about the reputation of contractees, (2) the existence of contract specific (sunk) assets, and (3) the costs of contract renewal and of complex contingent contacts to address changing market conditions. Their point estimates show that their proxy for sunk assets (investment in irrigation) has a negative but statistically insignificant effect on the length of a contract. Although Allen and Lueck (1992) examine the determinants of contract duration and briefly discuss its relationship between the division of input responsibilities and contract duration, they do not empirically examine this relationship.

The objective of the present article is to examine the division of labor between landowner and tenant under limited-duration land lease contracts that require land-specific durable input investment. The model extends the existing literature in the following ways. First, it considers the effect of both the contract period and the post-contract period on incentives for input investment. Second, the model allows contract duration to be endogenous. Third, the model provides a basis for choosing for contact duration that is different from the existing literature on contract duration.

[4] Empirical studies on cost share contracts in other markets include Leffler and Rucker (1991) focusing on timber contracts and Hallagan (1978) on share contracting for gold, among others.